SHARP SERVICE MANUAL

No. S9768XL520HE/

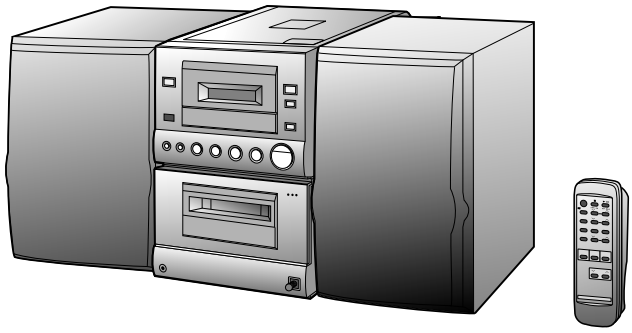

Illustration: XL-520H/CP-520

XL-520H
XL-520E
CP-520
CP-520E

COMPACT disc DIGITAL AUDIO

XL-520H and CP-520 constitute XL-520H.
XL-520E and CP-520E constitute XL-520E.

• In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified should be used.

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SHARP CORPORATION

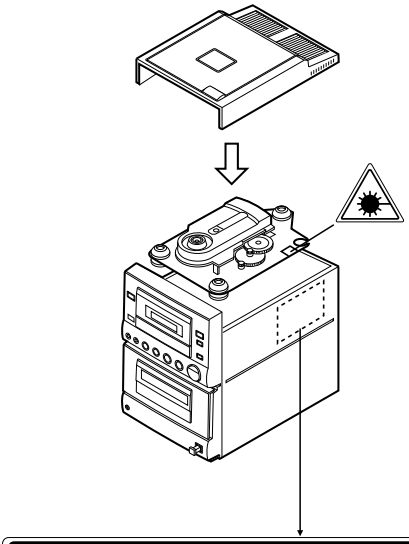
This document has been published to be used for after sales service only.
The contents are subject to change without notice.

SAFETY PRECAUTION FOR SERVICE MANUAL

Precaution to be taken when replacing and servicing the Laser Pickup.

The AEL (Accessible Emission Level) of Laser Power Output for this model is specified to be lower than Class I Requirements. However, the following precautions must be observed during servicing to protect your eyes against exposure to the Laser beam

(1) When the cabinet has been removed, the power is turned on without a compact disc, and the Pickup is on a position outer than the lead-in position, the Laser will light for several seconds to detect a disc. Do not look into the Pickup Lens.
(2) The Laser Power Output of the Pickup inside the unit and replacement service parts have already been adjusted prior to shipping.
(3) No adjustment to the Laser Power should be attempted when replacing or servicing the Pickup.
(4) Under no circumstances look directly into the Pickup Lens at any time.
(5) CAUTION - Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.

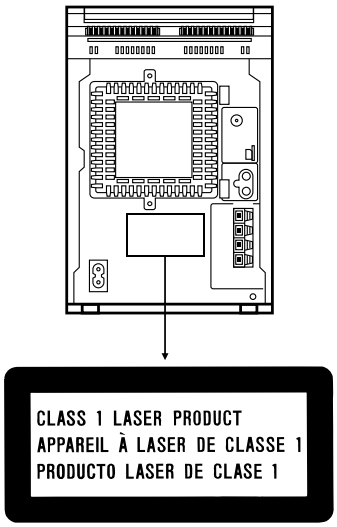


CAUTION-INVISIBLE LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS.
VARNING-OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. STIRRA EJ IN I STRÅLEN OCH BETRAKTA EJ STRÅLEN MED OPTISKA INSTRUMENT.
ADVERSEL-USYNLIG LASERSTRÅLING VED ÅBNING. SE IKKE IND I STRÅLEN-HELLER IKKE MED OPTISKE INSTRUMENTER.
VARO! AVATTAESSA OLET ALTTIINA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLÄ TUIJOTA SÄTEESEEN ÄLÄKÄ KATSO SITÄ OPTISEN LAITTEEN LÄPI.
VARNING-OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. STIRRA EJ IN I STRÅLEN OCH BETRAKTA EJ STRÅLEN GENOM OPTISKT INSTRUMENT.
ADVERSEL-USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. STIRR IKKE INN I STRÅLEN ELLER SE DIREKTE MED OPTISKE INSTRUMENTER.

VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

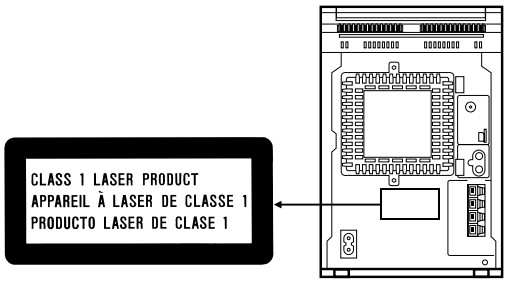
VARNING - OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERAS. KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

(XL-520H)



LASER KLASSE 1
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT
LASER TŘÍDY 1
LASER TRIEDY 1

(XL-520E)



FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

SPECIFICATIONS

XL-520H/520E

● General

Power source: AC 230 V, 50 Hz
Power consumption: 95 W
Dimensions: Width; 160 mm (6-5/16")
Height; 240 mm (9-1/2")
Depth; 300 mm (11-13/16")
Weight: 3.5 kg (7.7 lbs.)

● Amplifier section

Output power: PMPO; 112 W (total)
MPO; 56 W (28 W + 28 W) (10% T.H.D)
RMS; 40 W (20 W + 20 W) (10% T.H.D)
Input terminals: Video/Auxiliary (audio signal);
500 mV/47 kohms
Output terminals: Speakers; 4 ohms
Headphones; 16-50 ohms
(recommended; 32 ohms)

● Tuner section

Frequency range: FM; 87.5 - 108 MHz
MW; 522 - 1,620 kHz
LW; 153-281 kHz

● Compact disc player section

Type: Compact disc player
Signal readout: Non-contact, 3-beam semi-conductor laser pickup
D/A Converter: 1-bit D/A converter
Filter: 8-times oversampling digital filter
Frequency response: 20 - 20,000 Hz
Wow and flutter: Unmeasurable
(less than 0.001% W.peak)

● Cassette deck section

Frequency response: 50 - 14,000 Hz (Normal tape)
Signal/noise ratio: 50 dB
Wow and flutter: 0.25 % (WRMS)

CP-520/520E

Type: 2-way [12 cm (4-3/4") woofer and 2 cm (13/16") tweeter]
Rated input power: 20 W
Maximum input power: 40 W
Impedance: 4 ohms
Dimensions: Width; 160 mm (6-5/16")
Height; 240 mm (9-1/2")
Depth; 183 mm (7-1/4")
Weight: 1.8 kg (4.0 lbs.)/each

Specifications for this model are subject to change without prior notice.

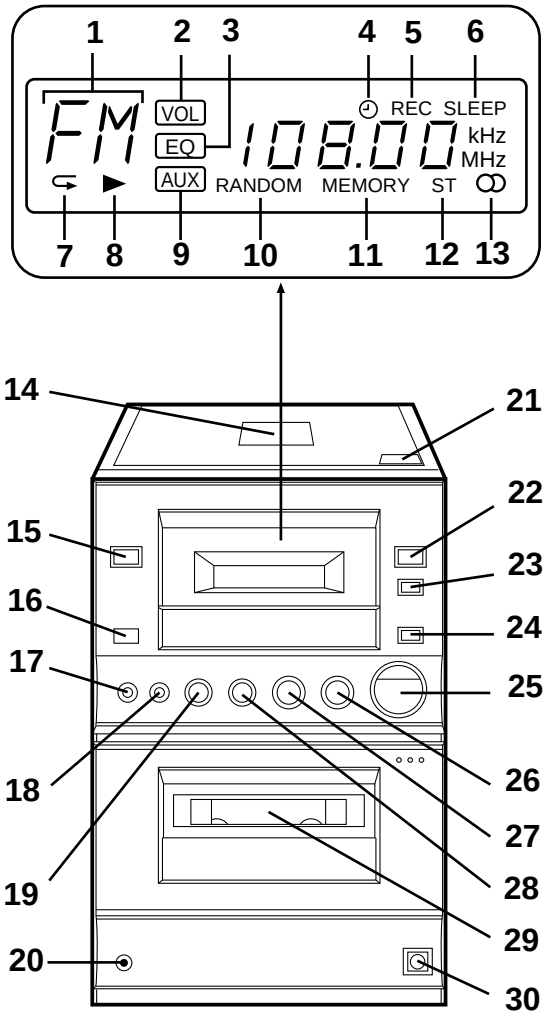
NAMES OF PARTS

XL-520H/520E

■ Front Panel

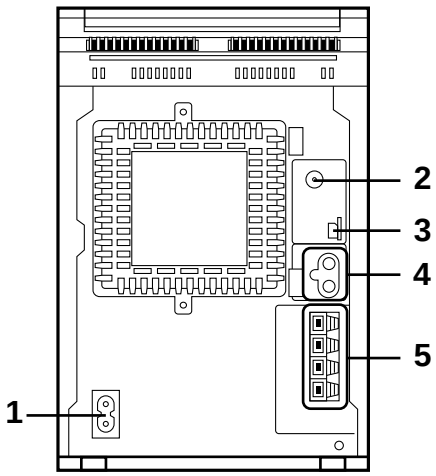
1. Functin/Band/Track Number Indicator
2. Volume Indicator
3. Extra Bass/Equalizar Indicator
4. Timer Indicator
5. Record Indicator
6. Sleep Indicator
7. Repeat Indicator
8. Play Indicator
9. Video/Auxiliary Indicator
10. Random Indicator
11. Memory Indicator
12. FM Stereo Mode Indicator
13. FM Stereo Indicator

14. CD Compartment
15. On/Stand-by Switch
16. Remote Control Sensor
17. Record Pause/Beat Cancel Button
18. Memory/Set Button
19. (CD) Track Down/Review Button
    (TAPE) Rewind Button
    (TUNER) Preset Down Button
20. Headphone Socket
21. CD Eject Button
22. Function Selector Button
23. Band Selector Button
24. Extra Bass/Equalizer Mode Button
25. Volume Up/Down Buttons
26. (CD) Play/Pause Button
    (TAPE) Play Button
    (TUNER) Tuning Up Button
27. (CD/TAPE) Stop Button
    (TUNER) Clear Button
28. (CD) Track Up/Cue Button
    (TAPE) Fast Forward Button
    (TUNER) Preset Up Button
29. Cassette Compartment
30. CD Digital Output Socket (Optical)



■ Rear Panel

1. AC Power Input Socket
2. FM 75 ohms Aerial Socket
3. MW/LW Loop Aerial Input Socket
4. Video/Auxiliary (Audio Signal) Input Sockets
5. Speaker Terminals

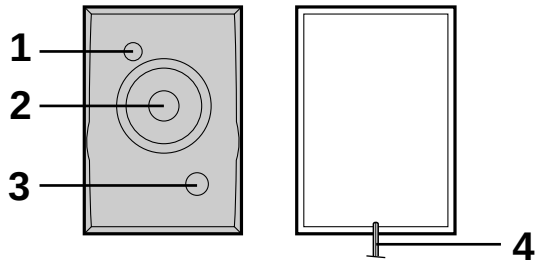


(Illustration: XL-520H)

CP-520/520E

■ Speaker Section

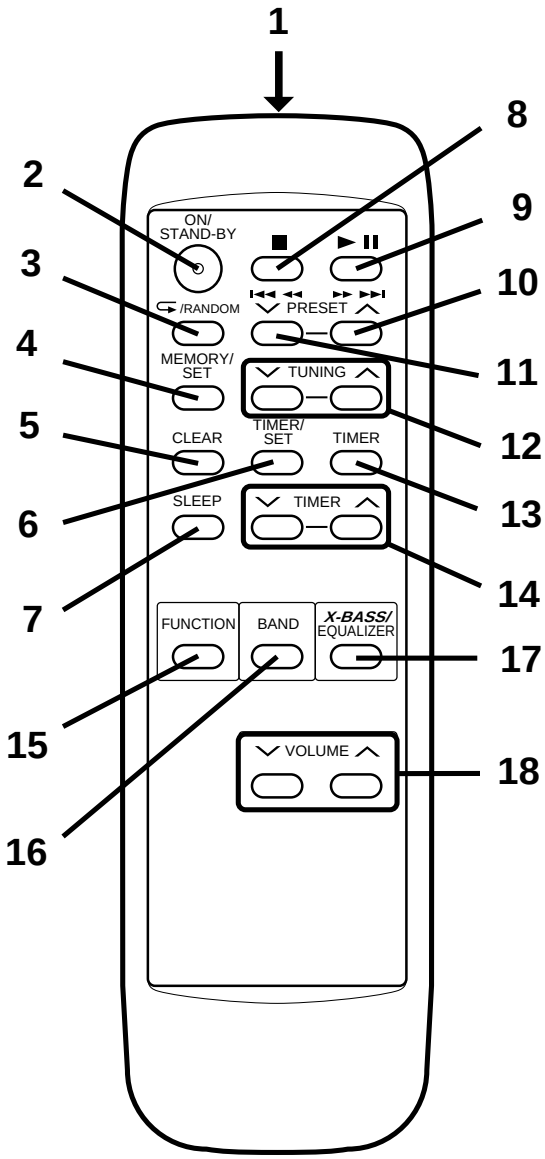
1. Tweeter
2. Woofer
3. Bass Reflex Duct
4. Speaker Wire



XL-520H/520E

■ Remote Control

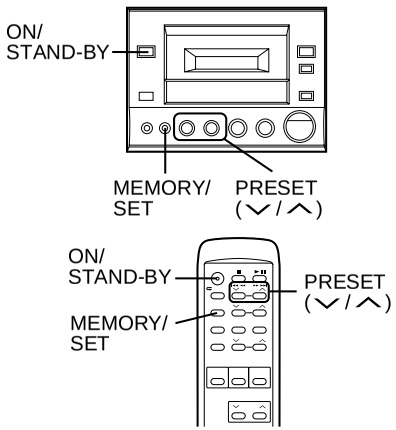
1. Remote Control Transmitter LED
2. On/Stand-by Button
3. (CD) Repeat/Random Button
4. (CD/TUNER) Memory/Set Button
5. (CD/TUNER) Clear Button
6. Timer/Set Button
7. Sleep Button
8. (CD/TAPE) Stop Button
9. (CD) Play/Pause Button
   (TAPE) Play Button
10. (CD) Track Up/Cue Button
    (TAPE) Fast Forward Button
    (TUNER) Preset Up Button
11. (CD) Track Down/Review Button
    (TAPE) Rewind Button
    (TUNER) Preset Down Button
12. Tuning Up/Down Buttons
13. Timer Button
14. Timer Up/Down Buttons
15. Function Selector Button
16. Band Selector Button
17. Extra Bass/Equalizer Mode Button
18. Volume Up/Down Buttons

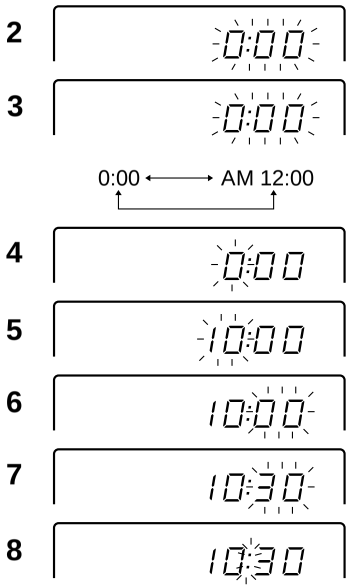


(Illustration: XL-520H)

SETTING THE CLOCK

In this example, the clock is set for the 24-hour (0:00) system.





1 Press the ON/STAND-BY button to enter the stand-by mode.

2 Press the MEMORY/SET button.

3 Press the PRESET (∨ or ∧) button to select the time display mode.
"0:00" → The 24-hour display will appear. (0:00 - 23:59)
"AM 12:00" → The 12-hour display will appear. (AM 12:00 - PM 11:59)

- Note that this can only be set when the unit is first installed or it has been reset (see page 6).

4 Press the MEMORY/SET button.

5 Press the PRESET (∨ or ∧) button to adjust the hour.

- Press the PRESET button once to advance the time by 1 hour. Hold it down to advance continuously.
- When the 12-hour display is selected, "AM" will change automatically to "PM".

6 Press the MEMORY/SET button.

7 Press the PRESET (∨ or ∧) button to adjust the minutes.

- Press the PRESET button once to advance the time by 1 minute. Hold it down to change the time in 5 minute intervals.
- The hour setting will not advance even if minutes advance from "59" to "00".

8 Press the MEMORY/SET button.

- The clock starts operating from "0" seconds. (Seconds are not displayed.)

Note:

- In the event of a power failure or when the AC power lead is disconnected, the clock display will go out.
  When the AC power supply is restored, the clock display will flash on and off to indicate the time when the power failure occurred or when the AC power lead was disconnected.
  If this happens, follow the procedure below to change the clock time.

To change the clock time:

1 Press the ON/STAND-BY button to enter the stand-by mode.

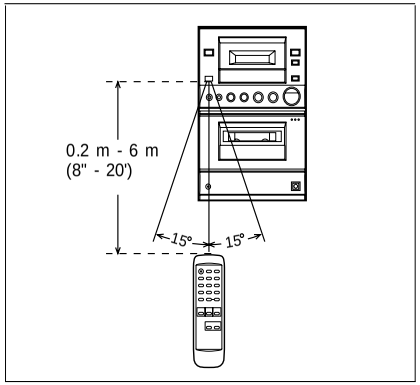
2 Perform steps 4 - 8 above.

To change the time display mode:

1 Perform steps 1 - 3 in the section "RESETTING THE MICROCOMPUTER", on page 6.

2 Perform steps 1 - 8 above.

PREPARATION FOR USE

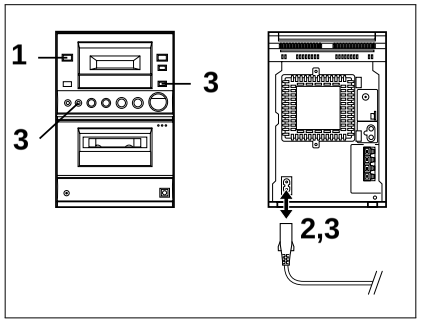


■ Remote control

Notes concerning use:

- Replace the batteries if control distance decreases or operation becomes erratic.
- Periodically clean the transmitter LED on the remote control and the sensor on the main unit with a soft cloth.
- Exposing the sensor on the main unit to strong light may interfere with operation. Change the lighting or the direction of the unit.
- Keep the remote control away from moisture, excessive heat, shock, and vibrations.

RESETTING THE MICROCOMPUTER



Reset the microcomputer under the following conditions:

- To erase all of the stored memory contents (clock and timer settings, tuner and CD presets).
- If the display is not correct.
- If the operation is not correct.

1 Press the ON/STAND-BY button to enter the stand-by mode.

2 Unplug the AC power lead from the AC INPUT socket on this unit.

3 Whilst pressing down the MEMORY/SET button and the X-BASS/EQUALIZER button, plug the AC power lead into the AC INPUT socket on this unit.

Caution:

- The operation explained above will erase all data stored in memory, such as clock and timer settings, tuner and CD presets.

DISASSEMBLY

Caution on Disassembly

Follow the below-mentioned notes when disassembling the unit and reassembling it, to keep it safe and ensure excellent performance:

1. Take cassette tape and compact disc out of the unit.
2. Be sure to remove the power supply plug from the wall outlet before starting to disassemble the unit.
3. Take off nylon bands or wire holders where they need be removed when disassembling the unit. After servicing the unit, be sure to rearrange the leads where they were before disassembling.
4. Take suffcient care on static electricity of integrated circuits and other circuits when servicing.

XL-520H/520E

STEP	REMOVAL	PROCEDURE	FIGURE
1	Top Cabinet	1. Screw ..... (A1) x4 2. Socket ..... (A2) x3 3. Screw ..... (A3) x1	7-1
2	Side Panel (Left/Right)	1. Screw ..... (B1) x7	7-1
3	Back Board (With Power Amp. PWB)	1. Screw ..... (C1) x4 2. Socket ..... (C2) x3	7-1
4	Front Panel	1. Screw ..... (D1) x4 2. Socket ..... (D2) x3	7-2
5	Display PWB/ CD Servo PWB	1. Screw ..... (E1) x6 2. Socket ..... (E2) x1	7-2
6	Main PWB	1. Screw ..... (F1) x4 2. Shield Plate ..... (F2) x1	7-2
7	Power Supply PWB	1. Screw ..... (G1) x5	7-2
8	Tape Mechanism	1. Screw ..... (H1) x4	7-3
9	CD Mechanism	1. Screw ..... (J1) x3	7-4

CP-520/520E

STEP	REMOVAL	PROCEDURE	FIGURE
1	Woofer	1. Net ..... (A1) x1 3. Screw ..... (A2) x4	7-5

CP-520/520E

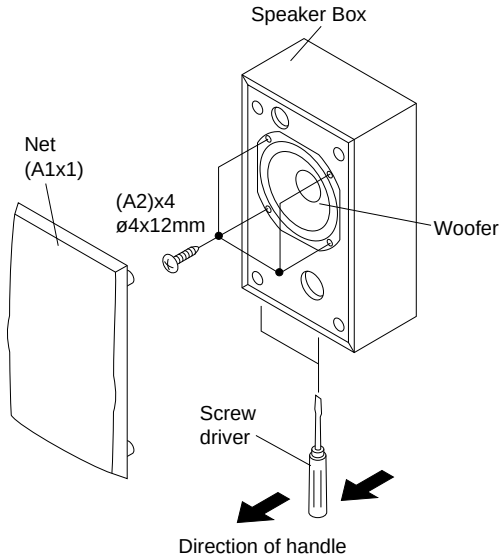


Figure 7-5

XL-520H/520E

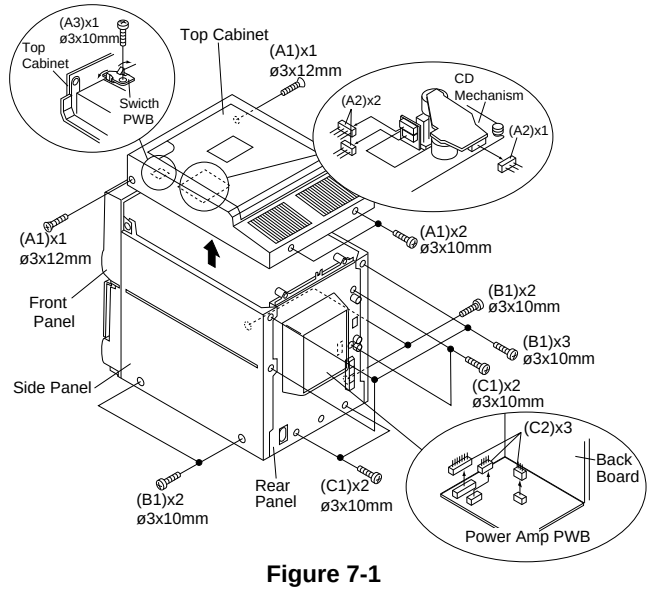


Figure 7-1

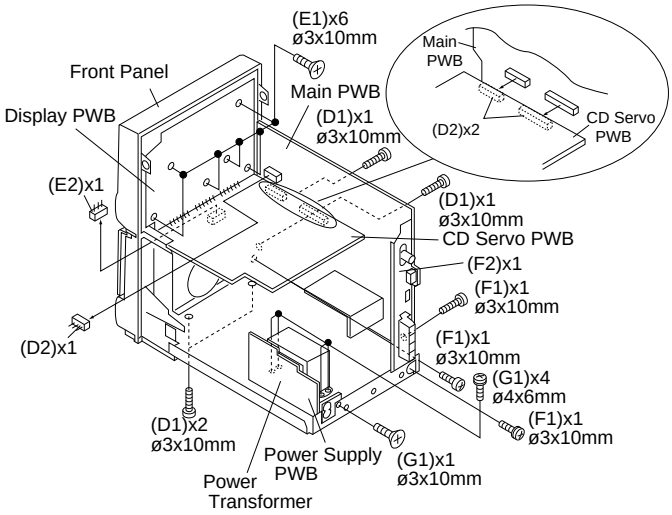


Figure 7-2

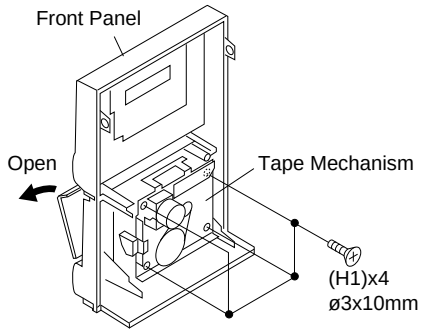


Figure 7-3

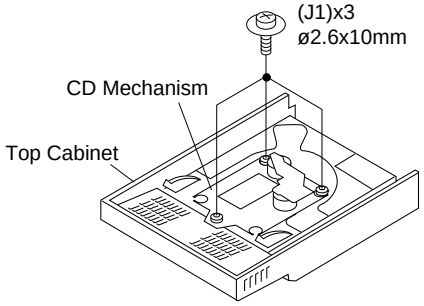


Figure 7-4

REMOVING AND REINSTALLING THE MAIN PARTS

CD MECHANISM SECTION

Perform steps 1,to 5 of the disassembly method to remove the CD mechanism.

How to remove the pickup (See Fig. 8)

1. Remove the mechanism cover, paying attention to the pawls (A1) x 4 pcs.
2. Remove the screws (A2) x 2 pcs., to remove the shaft (A3) x 1 pc.
3. Remove the stop washer (A4) x 1 pc., to remove the gear (A5) x 1 pc.
4. Remove the pickup.

Note:

After removing the optical pickup connector wrap the front end of connector in conductive aluminium foil so as to prevent damage of optical pickup by static electricity.

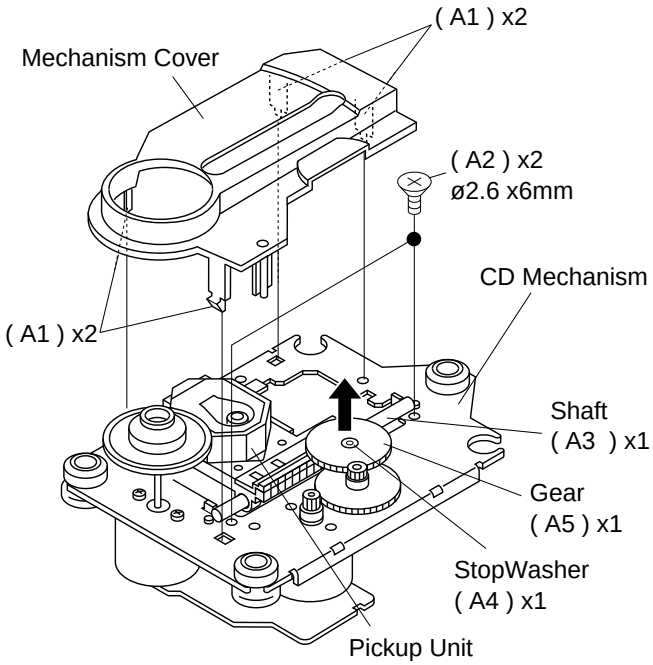


Figure 8

ADJUSTMENT

MECHANISM SECTION

• Driving Force Check

Torque Meter	Specified Value
Play: TW-2412	Over 80 g

• Torque Check

Torque Meter	Specified Value
Play: TW-2111	30 to 70 g. cm
Fast forward: TW-2231	50 to 140 g.cm
Rewind: TW-2231	50 to 140 g.cm

• Tape Speed

Test Tape	Adjusting Point	Specified Value	Instrument Connection
MTT-111	Motor	3,000 ± 90 Hz	Headphone terminal

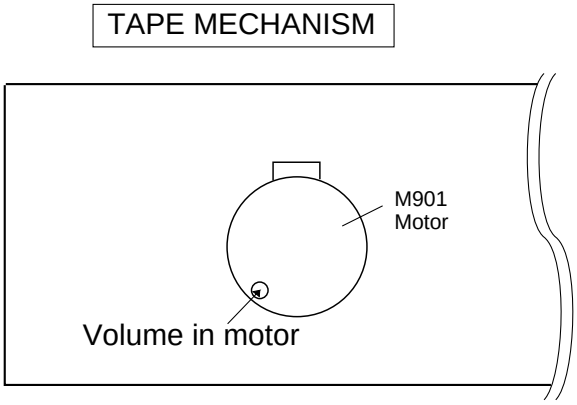


Figure 9-1 ADJUSTMENT POINT

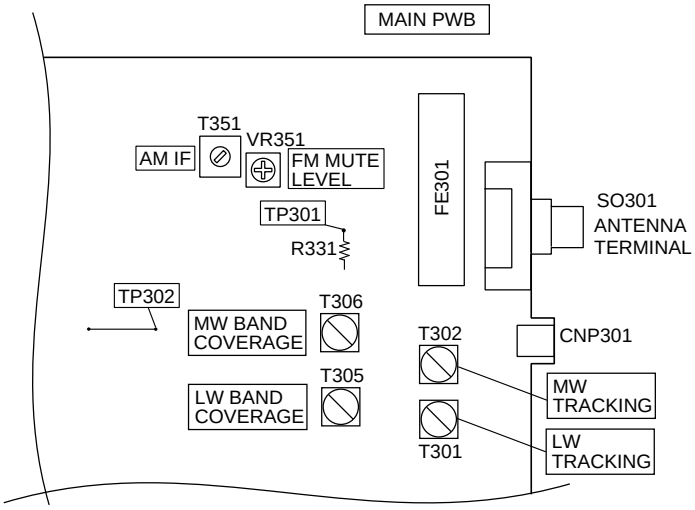


Figure 9-2 ADJUSTMENT POINTS

TUNER SECTION

fL: Low-range frequency
fH: High-renge frequency

• AM IF/RF

Signal generator: 400 Hz, 30%, AM modulated

Test Stage	Frequency	Frequency Display	Setting/ Adjusting Parts	Instrument Connection
IF	450 kHz	1,620 kHz	T351	*1
MW Band Coverage	—	522 kHz	(fL): T306 1.1 ± 0.1 V	*2
LW Band Coverage	—	153 kHz	(fL): T305 1.1 ± 0.1 V	*2
MW Tracking	990 kHz	990 kHz	(fL): T302	*1
LW Tracking	225 kHz	225 kHz	(fL): T301	*1

*1. Input: Antenna, Output: Speaker Terminal
*2. Input: Input is not connected, Output: TP301

• Setting the Test Mode

Keeping the BAND button and MEMORY button pressed, turn on POWER. Then, the frequency is initially set in the memory as shown in Table. Call it with the ◀◀, ▶▶ button to use it for adjustment and check of tuner circuit.

Preset No.	FM	Preset No.	MW
1	87.50 MHz	6	522 kHz
2	108.00 MHz	7	1,620 kHz
3	98.00 MHz	8	990 kHz
4	90.00 MHz	9	603 kHz
5	106.00 MHz	10	1,404 kHz

Preset No.	LW
11	153 kHz
12	281 kHz
13	225 kHz
14	162 kHz
15	261 kHz

• FM Mute Level

Signal generator: 1 kHz, 40 kHz dev., FM modulated

Frequency	Display	Adjusting Parts	Instrument Connection
98.00 MHz (25 dBμV)	98.00 MHz	VR351*1	Input: SO301 Output: Speaker Terminal

Adjust so that an output signal appears.

• Check FM VT

Signal generator: 1 kHz, 40 kHz dev., FM modulated

Frequency	Display	Check Point	Instrument Connection
87.5 MHz	87.5 MHz	2.2 V ± 0.7 V	TP301
108 MHz	108 MHz	7.3 V ± 1.0 V	TP301

CD SECTION

1. This CD unit need adjustment as follow.

CD Test Mode	Adjustment Part	Value/Adjusting Method	Instrument Connection
Step 1	VR803 (Focus Offset)	DC + 40 mV (FEI>VRO)	FEI (R826) and VRO (1-Pin of TP801)
Step 4	VR802 (Tracking Error Balance)	*1 (See Fig. 10-2)	TSO (3-Pin of TP801) and VRO (1 Pin of TP801)

*1: Adjust to obtaiin vertically symmetrical waveform (Fig. 10-2) with respect toreference DC level. The reference level is VRO (Approx DC 2.1V).

2. This CD unit have the following automatic adjustment function. Automatic adjustment item.
   2-1: Focus Servo Gain (Fig. 10-3)
   Focus Gain Adjustment is performed when disc is changed.
   2-2: Tracking Servo Gain (Fig. 10-4)
   Tracking Gain Adjustment is performed when disc is changed and disc is playbacked.

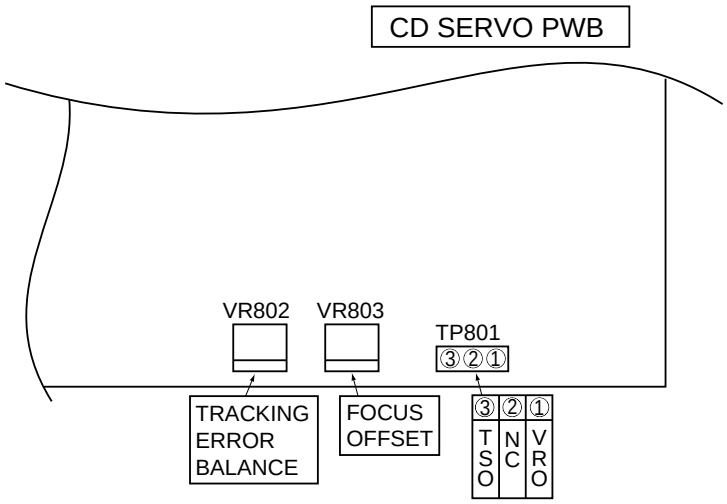


Figure 10-1 ADJUSTMENT POINTS

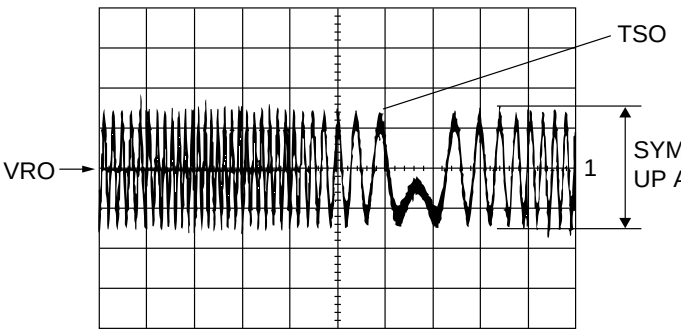


Figure 10-2

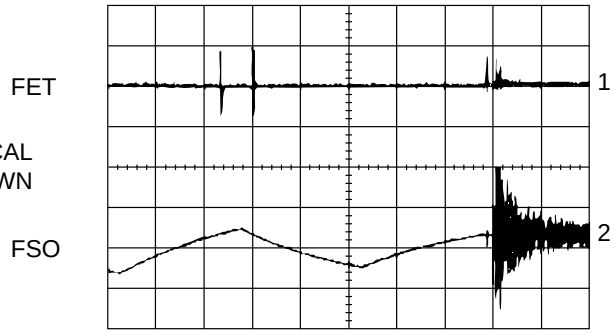


Figure 10-3

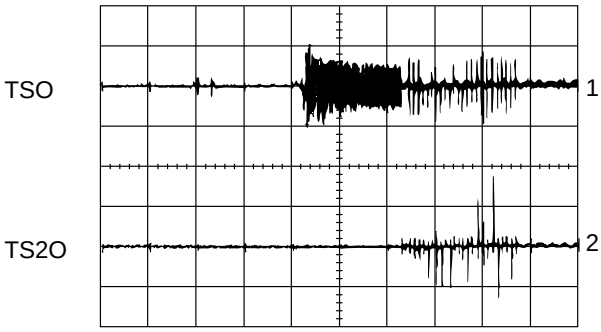


Figure 10-4

TEST MODE

The Test Mode for this microcomputer has two variations, namely "regular Test Mode" for adjustment and measurement and "self-diagnosis Test Mode" for self-judgment in final inspection of products.

1. Entering the Test Mode

To enter the each Test Mode, press the POWER key, holding down the following two keys in the regular standby mode (power off state). In this case only the main unit keys are valid. The Test Mode is not set even when the remote controller POWER key is turned on.

[Regular Test Mode]	[Holding Down Keys]
1. CD Test Mode (TEST 1)……	Stop + Play
2. Tuner Test Mode (TEST 3)……	Memory/Set + Band Selector
3. Electronic volume Test Mode (TEST 4)……	Stop + Extra Bass/Equalizer Mode
4. Timer Test Mode (TEST 5)……	Fast Forward + Function Selector
5. LCD Test Mode (TEST 6)……	Memory/Set + Function Selector
[Self-diagnosis Test Mode]	
1. Key input diagnosis TEST Mode (TESTA)……	Play + Record Pause

2. CD Test Mode (TEST 1)

1. Step 1 Mode

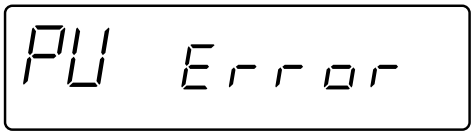
When the CD Test Mode is set, the following display lights, and the CD pickup slides to the innermost periphery.

After lighting for 1.5 sec

When the following operation key is pressed in this state, the following operation is performed.

"POWER" ..... The Test Mode is set to off, power is turned off, and the mode is changed to the regular standby mode.
"FF/FWD" ..... After the pickup returns once to the innermost periphery, the pickup slides to the external periphery while this key is held down.
"REW/REV" ..... After the pickup returns once to the innermost periphery, the pickup slides to the internal periphery while this key is held down. However, input is invalid if PU-IN is on.
"PLAY" ..... Shift to Step 2
"STOP" ..... Invalid

* In case of mode entry the pickup is moved to the internal periphery. At this time entry of any key other than POWER key is disabled until shift of pickup to the internal periphery is completed. If PU-IN SW ON cannot be detected while waiting for 10 seconds, the slide motor is stopped, the following error is displayed, and entry of any key other than POWER key is disabled.



2. Step 2 Mode

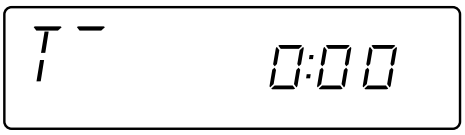
When the PLAY key is pressed in the mode above, the laser lighting is turned on. In this state the laser is only turned on, and other operations are not performed.

When the following operation key is pressed in this state, the following operation is performed.
"POWER" ..... The Test Mode is set to off, power is turned off, and the mode is changed to the regular standby mode.
"FF/FWD" ..... While this key is held down, the pickup slides to the external periphery.
"REW/REV" ..... While this key is held down, the pickup slides to the internal periphery. However, if PU-IN is on, entry is invalid.
"PLAY" ..... Shift to Step 3
"STOP" ..... Return to Step 1

3. Step 3 Mode
While the laser is lighting, the focus servo is turned on, and focus search is performed. If focusing failure occurs, focus search is repeated until focusing is attained.

When the following operation keys are pressed in this state, the following operations are performed.
"POWER" ..... The Test Mode is set to off, power is turned off, and the mode is changed to the regular standby mode.
"FF/FWD" ..... While this key is held down, the pickup slides to the external periphery.
"REW/REV" ..... While this key is held down, the pickup slides to the internal periphery. However, if PU-IN is on, entry is invalid.
"PLAY" ..... If focusing has been attained, the process proceeds to Step 4. Unless focusing has been attained, reception is inhibited.
"STOP" ..... Return to Step 1

4. Step 4 Mode
The disc is rotated and CLV is locked while the tracking servo is off.



The time display indicates always "0:00".

When the following operation keys are pressed in this state, thefollowing operations are performed.
"POWER" ..... The Test Mode is set to off, power is turned off, and the mode is changed to the regular standby mode.
"FF/FWD" ..... While this key is held down, the pickup slides to the external periphery.
"REW/REV" ..... While this key is pressed, the pickup slides to the internal periphery. However, if PU-IN is on, entry is invalid.
"PLAY" ..... Shift to Step 5
"STOP" ..... Return to Step 1

5. Step 5 Mode
The tracking servo is turned on, groove is traced, mute is set to off, and playback is started. Even when the outermost periphery of disc is reached in playback mode, it does not stop. The LCD display indicates playback lapse time as in case of regular CD playback.

When the following operation keys are pressed in this state, the following operations are performed.
"POWER" ..... The Test Mode is set to off, power is turned off, and the mode is changed to the regular standby mode.
"FF/FWD" ..... While this key is held down, the pickup slides to the external periphery.
"REW/REV" ..... While this key is held down, the pickup slides to the internal periphery. However, if PU-IN is on, entry is ..... invalid.
"PLAY" ..... Invalid
"STOP" ..... Return to Step 1

Other cautions
- While the CD lid OPEN is detected, entry into any step later than Step 2 is disabled. If CD lid OPEN is detected in any step higher than Step 2, return to Step 1 is done.
- TOC IL is not performed in the Test Mode.
- The key operation, excepting that specified above, is the same as that of regular operation (CD). Only the FUNCTION key is input-inhibited.
- Syncro REC with REC key input is also invalid in this mode.

3. Tuner Test Mode (TEST 3)

1. Outline of tuner (radio) Test Mode
   The tuner Test Mode is intended to store adjustment/measurement frequency in the preset memory CH without frequency adjustment by the adjusting personnel when the tuner is adjusted in the production line.
2. Details of tuner Test Mode
   When power is turned on with the POWER key while the MEMORY/SET key and BAND key are held down together in POWER OFF state, the frequency for adjustment/measurement of specific destination specified by the AREA terminal is preset-stored in the preset memory CH (the frequency to be preset-stored for specific destination is explained in the Item C). When the tuner Test Mode is started up, it is started with FM. FM is FM STEREO only.
   When the REW key is pressed while the preset memory CH is 1CH, the highest CH is found as in case of regular mode. When the FF key is pressed while the preset memory CH is highest CH, 1CH is found.
   The RADIO (TUNER) BAND key (or TUNER/BAND key on the remote controller) is valid.
   As in case of regular mode, selection of band, FM MONO/STEREO mode is enabled by pressing the RADIO (TUNER) BAND (or TUNER/BAND) key.
   Exiting the tuner Test Mode, When the destruction data is stored in the memory in the tuner Test Mode, AC supply is interrupted in the Test Mode and the AC supply is recovered, all the memory is cleared with the destruction data in case of start-up.
   (Countermeasures so that the Test Mode memory does not remain when AC supply is restored after power supply failure occurred once in the Test Mode.) The memory is not cleared when AC supply is turned off after POWER OFF.
   FUNCTIONkey is not accepted in the tuner test mode. In case of exit from the tuner Test Mode through the backup mode upon occurrence of power failure the frequency data stored in the preset memory for adjustment/measurement is erased. (As a result the preset memory CH becomes empty.)

   The display indication is the same as that in case of regular operation.
   The following display lights for one second when the tuner TEST mode is turned on

Test Mode operation specification

3. Preset frequencies for various destinations (random preset memory)

BAND (CH)			
1	FM 87.5MHz	11	LW 522 kHz
2	FM 108.0MHz	12	LW 1620 kHz
3	FM 98.0MHz	13	LW 990 kHz
4	FM 90.0MHz	14	LW 603 kHz
5	FM 106.0MHz	15	LW 1404 kHz
6	MW 522 kHz		
7	MW 1620 kHz		
8	MW 990 kHz		
9	MW 603 kHz		
10	MW 1404 kHz		

• The unit used in the table above is Hz. K represents 1,000 times, and M represents 1,000,000 times.
• The hatched data shown in the table are not stored in the memory.
• FM is stereo mode.

Note: Keys which are effective in Test Mode

- Main unit keys: VOLUME UP/DOWN, BAND, TUNING UP, POWER, MEMORY, CLEAR, PRESET UP/DOWN
- Remote controller keys: VOL UP/DOWN, BAND, TUNING UP/DOWN, POWER, MEMORY, CLEAR, PRESET UP/DOWN

4. Electronic volume Test Mode (TEST 4)

After the Test Mode is set, the following display lights for one second.

When this mode has been set, -14dB (STEP17) is set, the preset equalizer is set to FLAT (EQ-3), the SRS mode is set to OFF, and the start-up function is set to Tape.

1. The display is the same as that indicated in case of regular operation excepting when Test Mode is set.
2. The volume control with the Volume UP/DOWN key is only the following 3 steps, differing from the volume control in the regular operation mode.
   Volume — ∞ (STEP 0) ◄⟷► Volume — 14dB (STEP 17) ◄⟷► Volume — 0 (STEP 24)
3. The preset equalizer and SRS are switched if key operation is performed.

5. Timer Test Mode (TEST 5)

When the Test Mode is set, the following display lights for one second.

The current time and timer time are set in the following procedure, and timer playback is performed.

1. The present time is set to 1:00, the timer is set to ON time 1:02, OFF time 1:12, Function is set to Tape, Volume is set to STEP8. One minute is counted in increments of second, and timer playback is performed. One step of Fade-in/out in this mode is performed for 0.5 sec.
The display is the same as that appears in the regular timer operation.
2. After completion of timer playback test "TEST-5" indication (which appears when the mode is set) appears again and Standby state is set. PLAY key entry is waited. If an entry is detected, the SLEEP timer is set to 2 minutes, and Function is set to Tape, so that playback is started at once. Volume is set to STEP8, and 10 seconds are counted down in decrements of second. One step of Fade-out is 0.5 sec.
The display is the same as that appears in the regular sleep playback mode.
3. After completion of SLEEP test, the Test Mode is turned off, and regular standby mode is set, so that the Test Mode ends.

6. LCD Test Mode (TEST 6)

When the LCD Test Mode is set, all the LCD segments light.

7. Key input diagnosis Test Mode (TEST A)

When the Test Mode is set, the following display appears.

In this Test Mode checking as to whether all the main unit keys can be detected is performed. Accordingly, when this mode is set, checking is performed so as to examine whether the POWER key was pressed last after all the following keys were pressed. If the result is OK, the following OK is displayed. If any one of keys was not pressed, an error is indicated. When the POWER key is pressed, exit from the mode is made irrespective of whether the termination is normal or abnormal, and the standby mode is set.

All the models using this microcomputer do not have the same keys. The entry of the following keys is detected depending on the combination of simultaneously pressed keys when this mode is set. Key pressing order is not fixed. Pressing of all keys must be detected.

1. In case of "SRS" + "RDS PTY-TP"

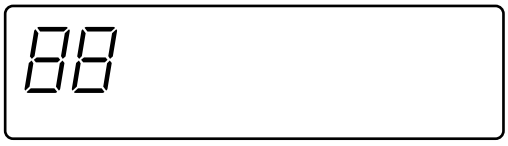
   Since the model does not have RDS and SRS, all the keys to be detected are the following 15 keys.

   PLAY, VOL ∧, VOL∨, BAND, G-EQ, FUNCTION, MEMORY/SET, REC PAUSE, REW/REV, FF/FWD, STOP, SRS RDS ASPM, RDS DISPLAY, RDS PTY-TP

OK/NG indication of test result must be as follows.

NG indication

OK indication



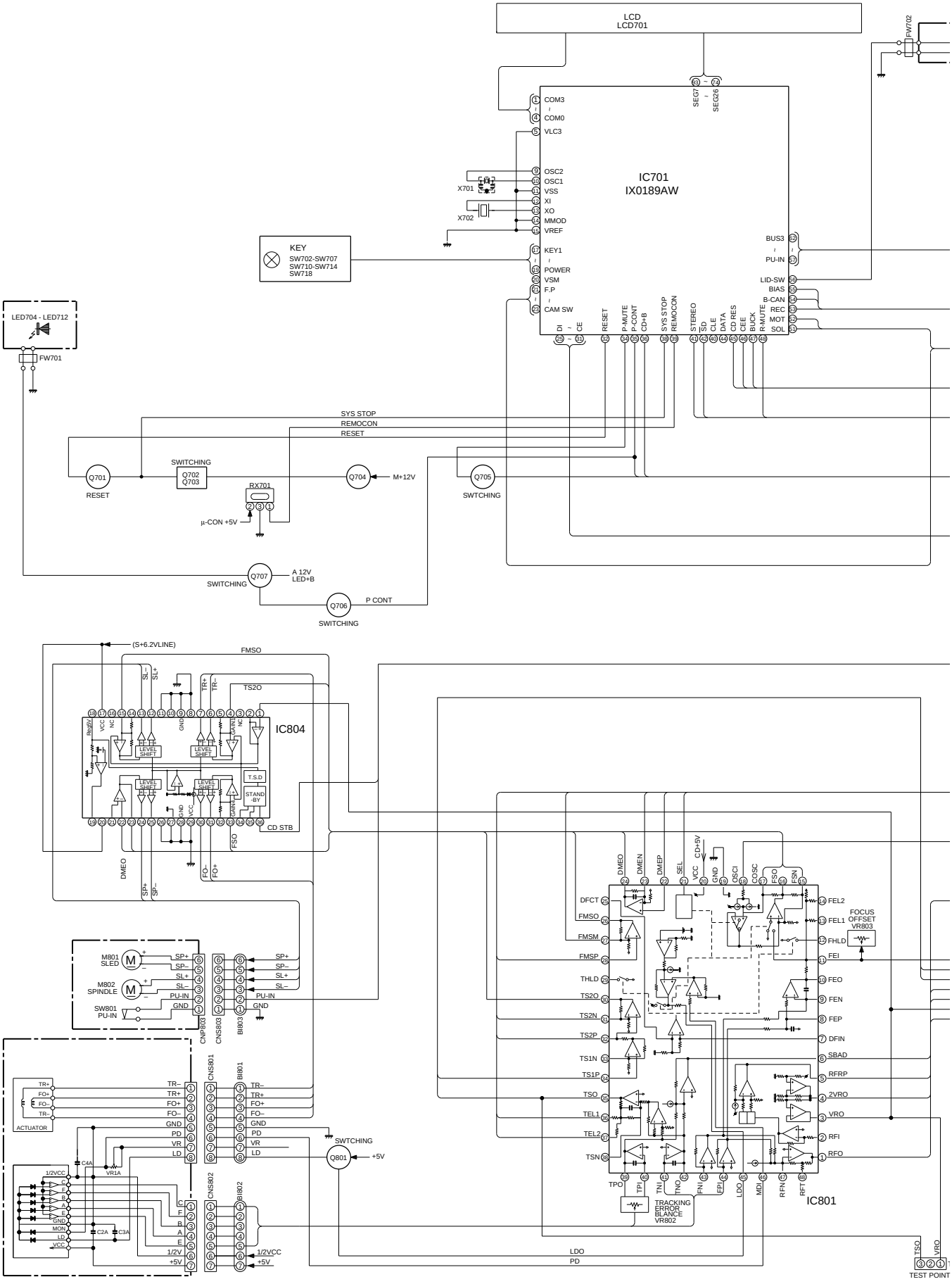


Figure 16 BLOCK DIAGRAM (1/4)

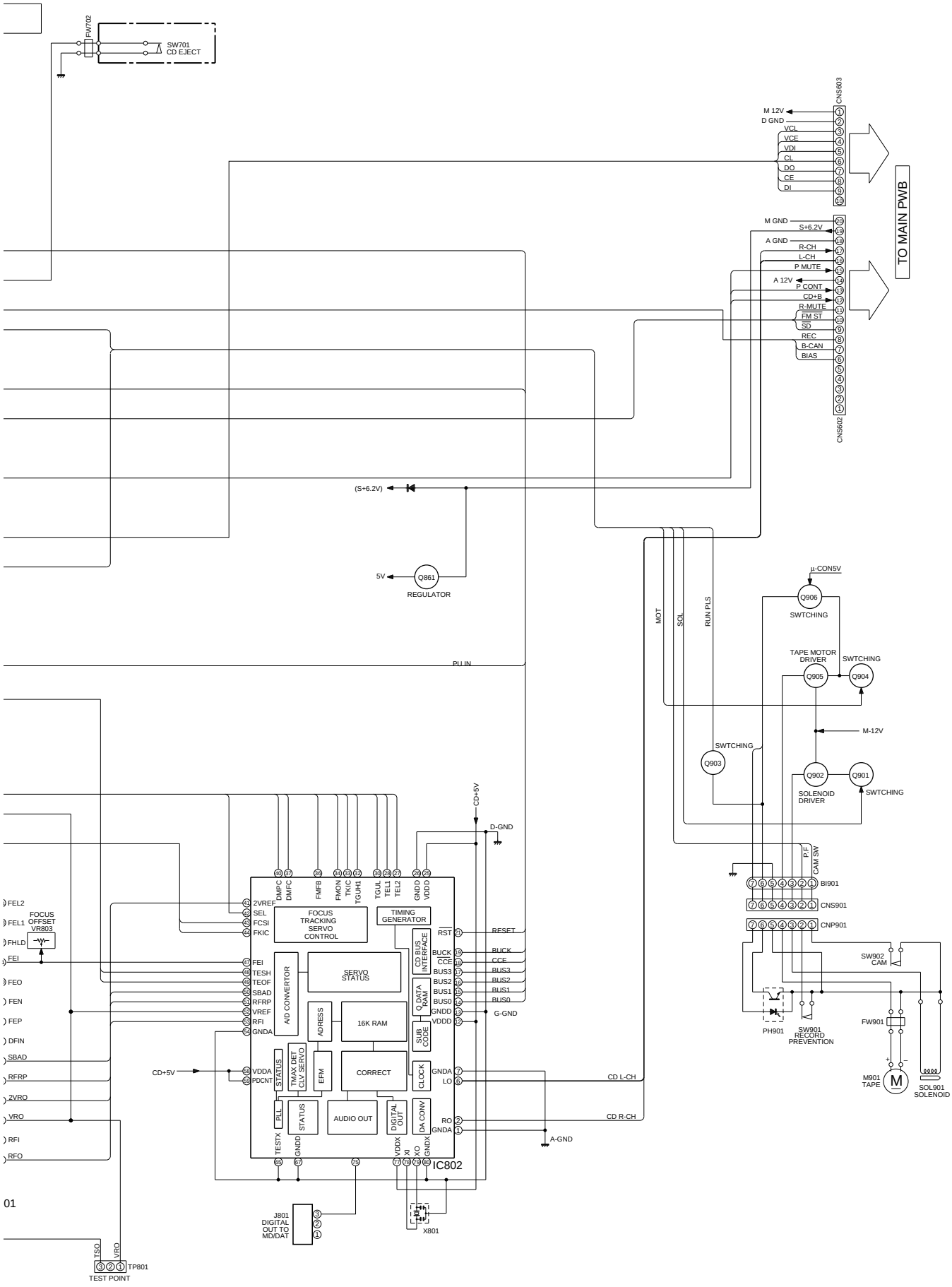


Figure 17 BLOCK DIAGRAM (2/4)

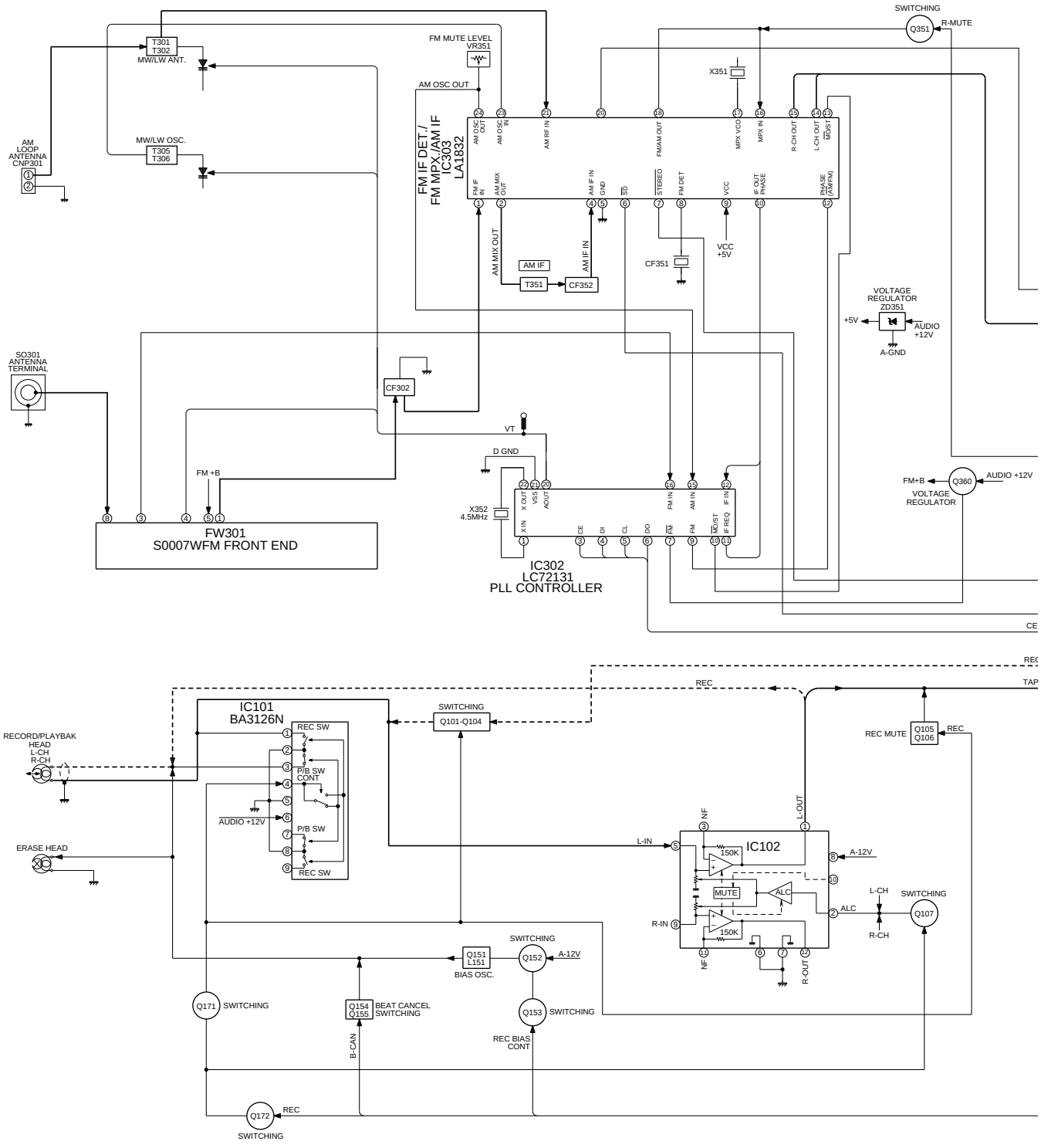


Figure 18 BLOCK DIAGRAM (3/4)

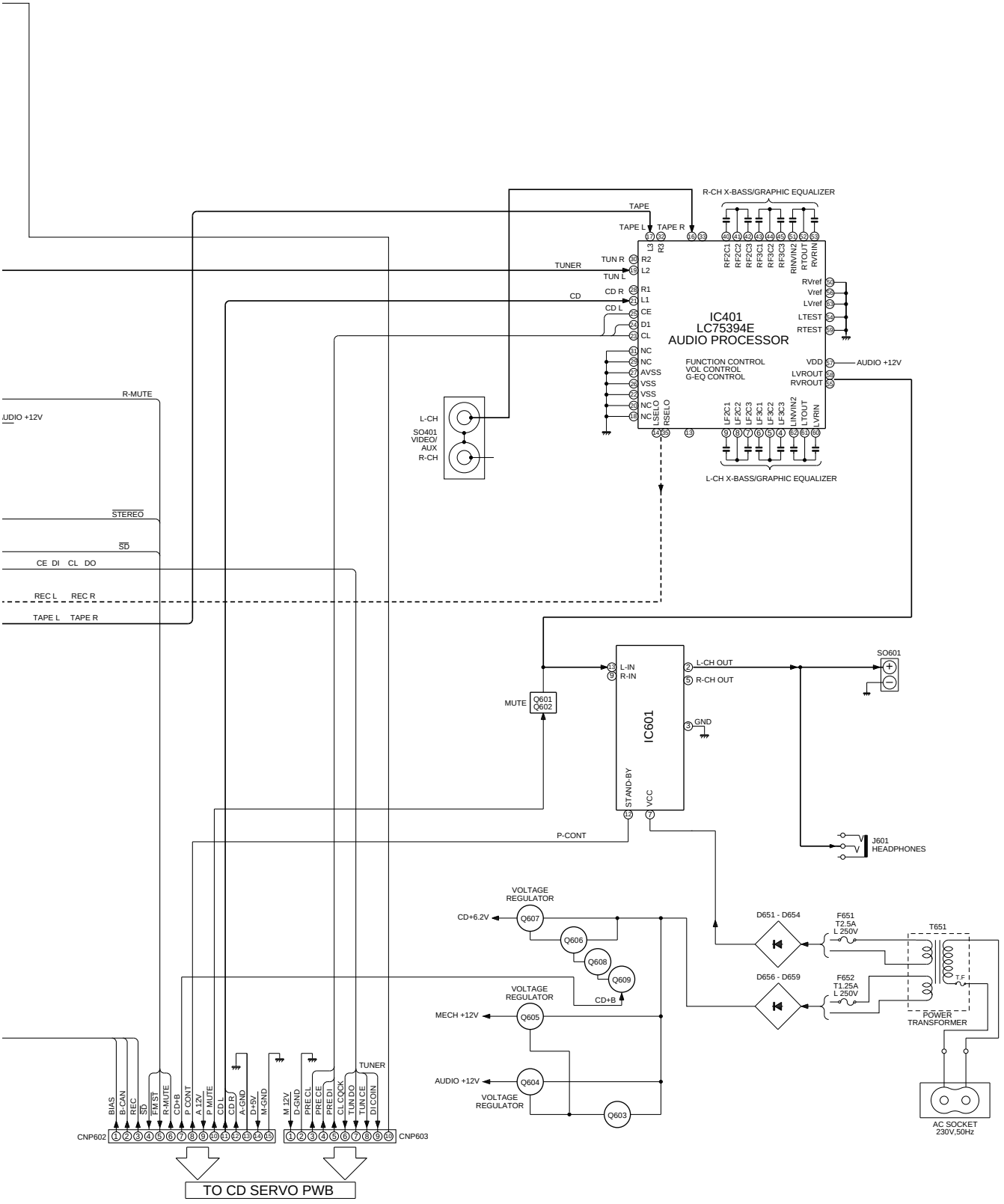
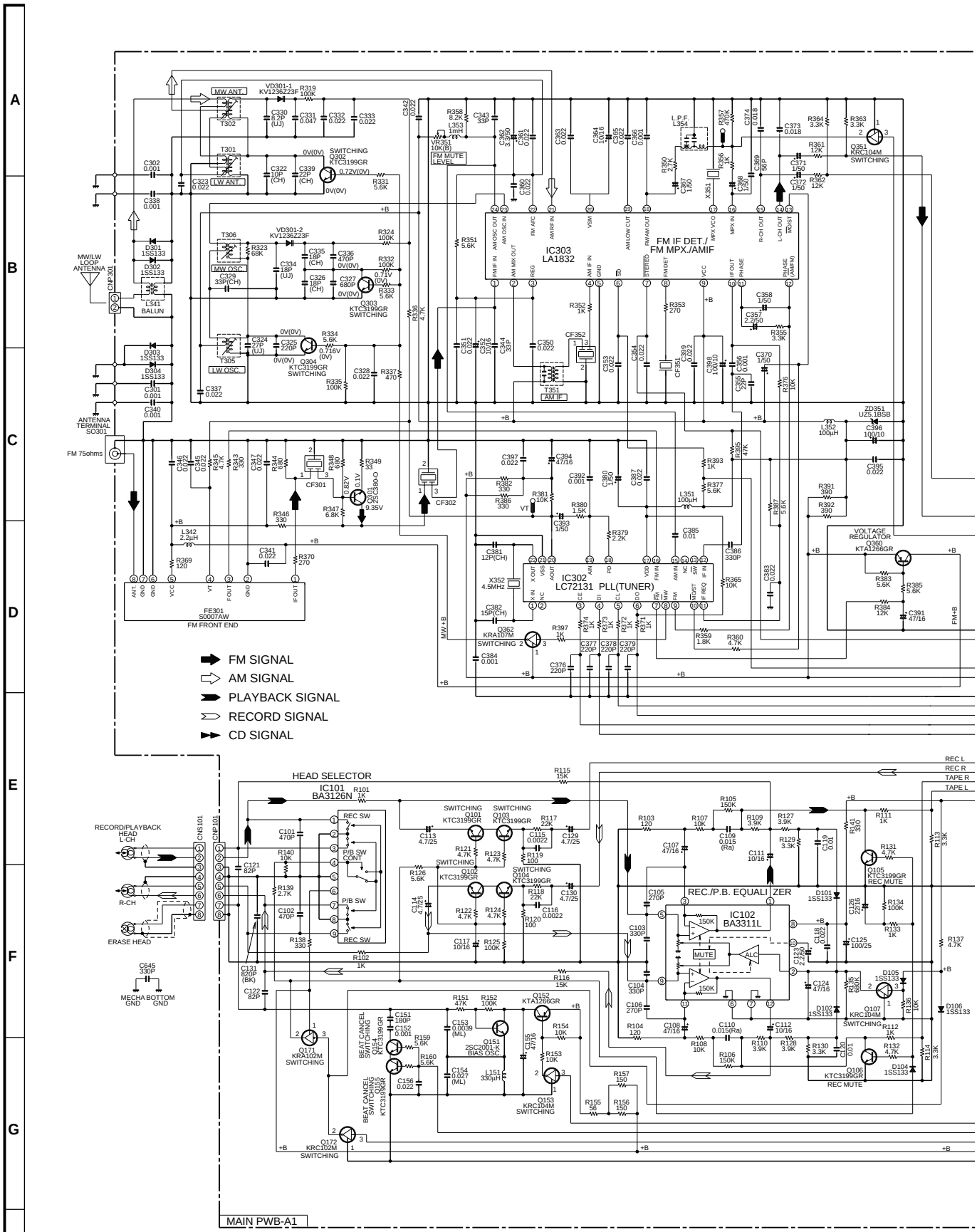
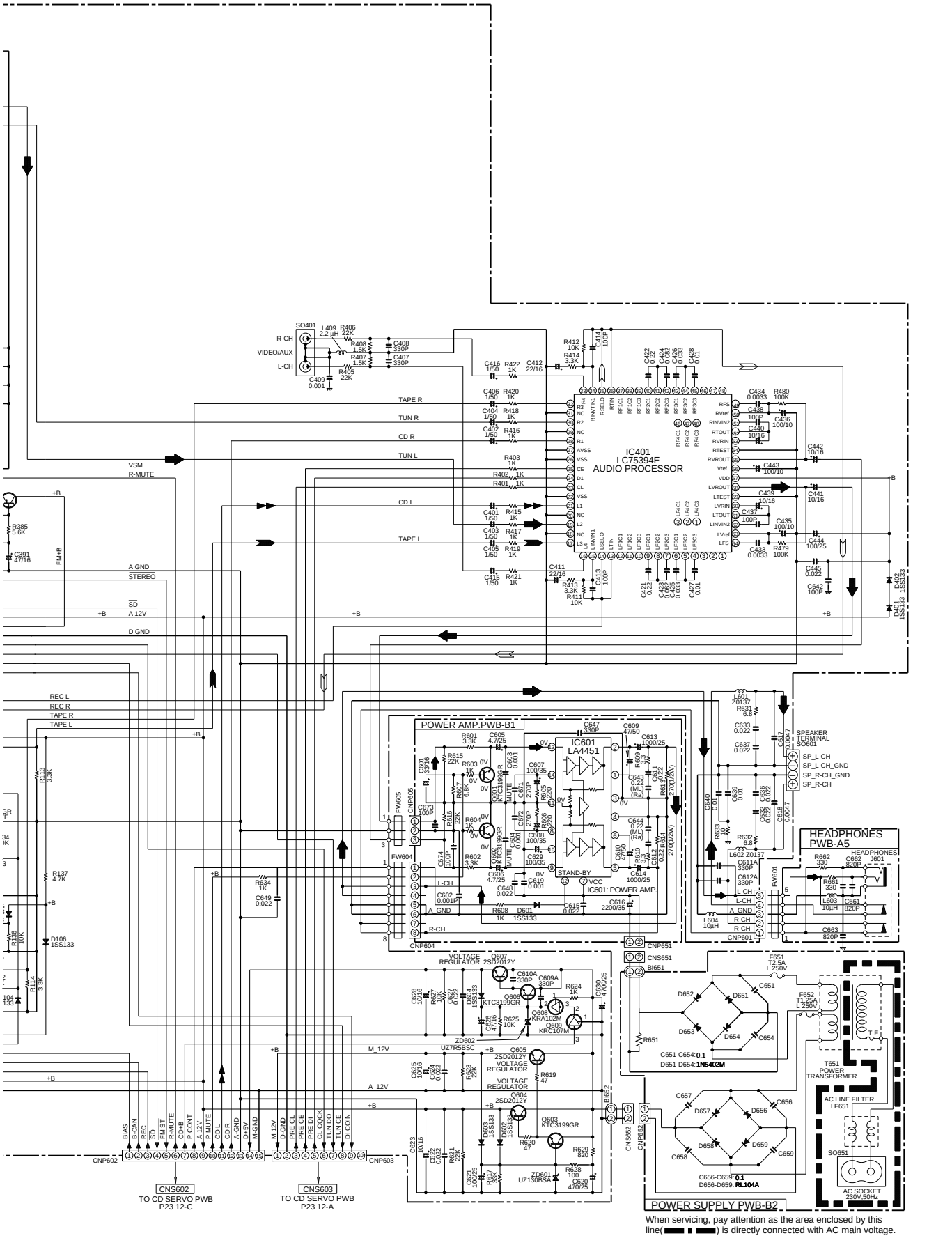


Figure 19 BLOCK DIAGRAM (4/4)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 29.

Figure 20 SCHEMATIC DIAGRAM (1/4)



7	8	9	10	11	12

Figure 21 SCHEMATIC DIAGRAM (2/4)

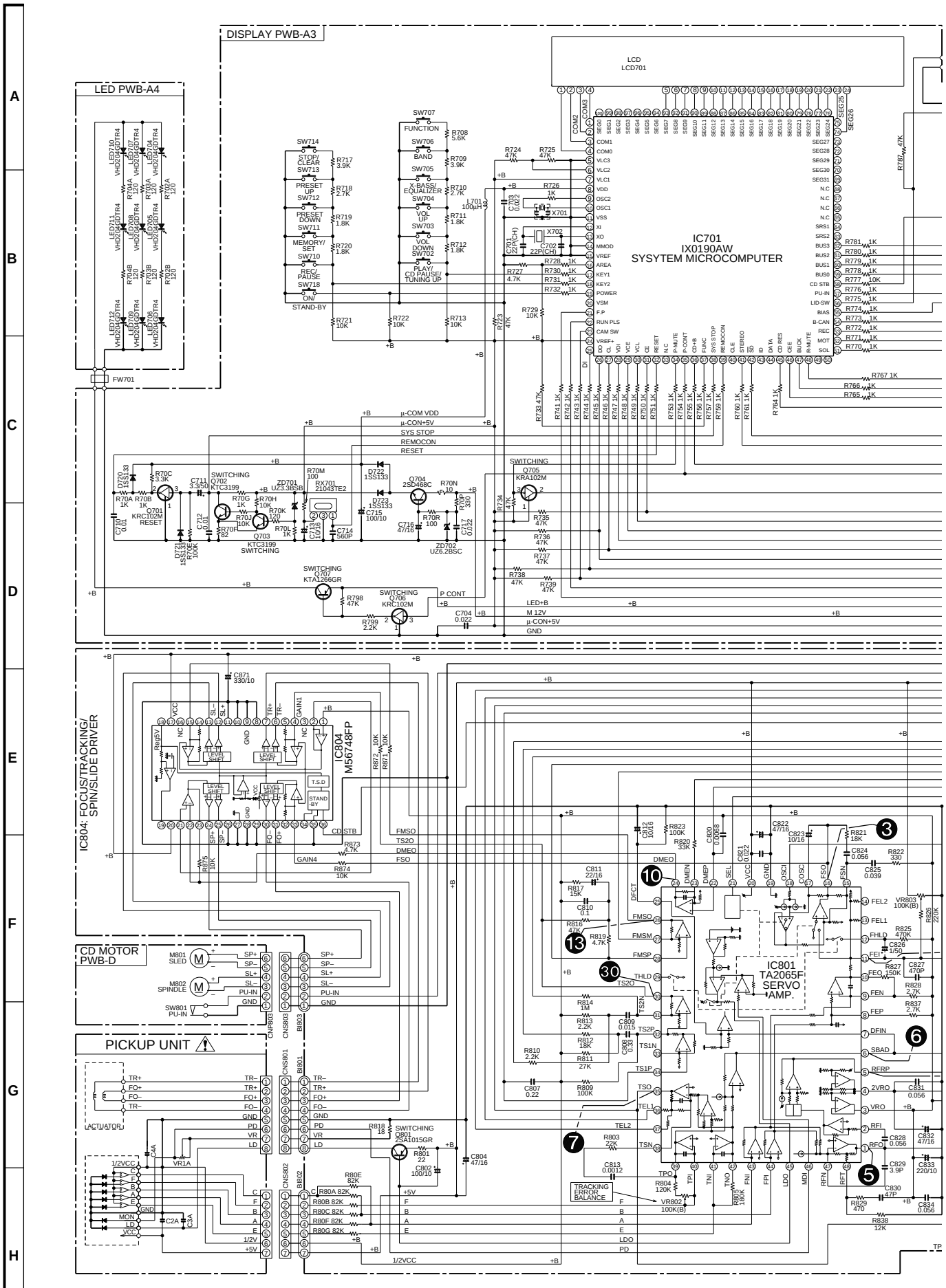
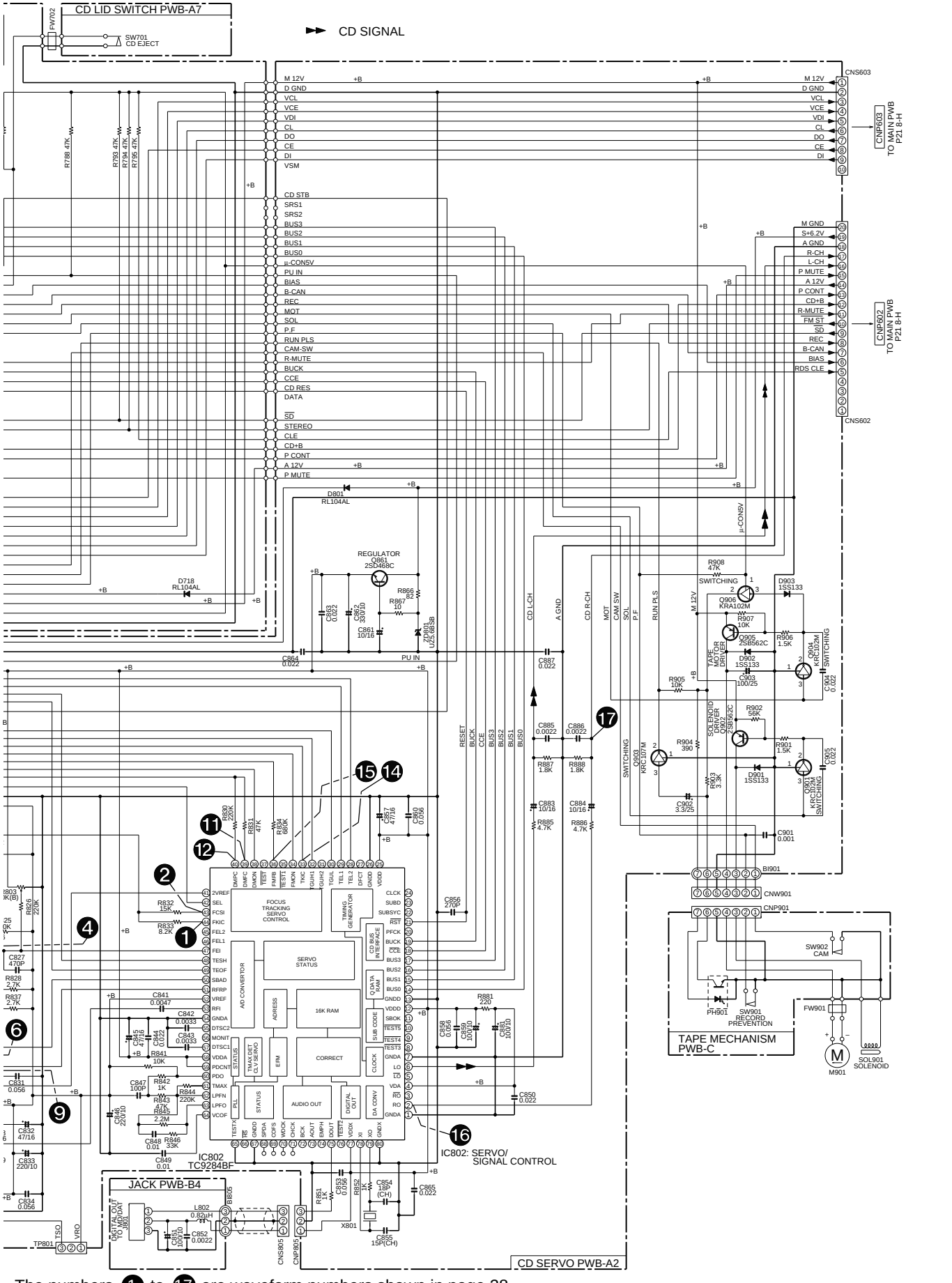


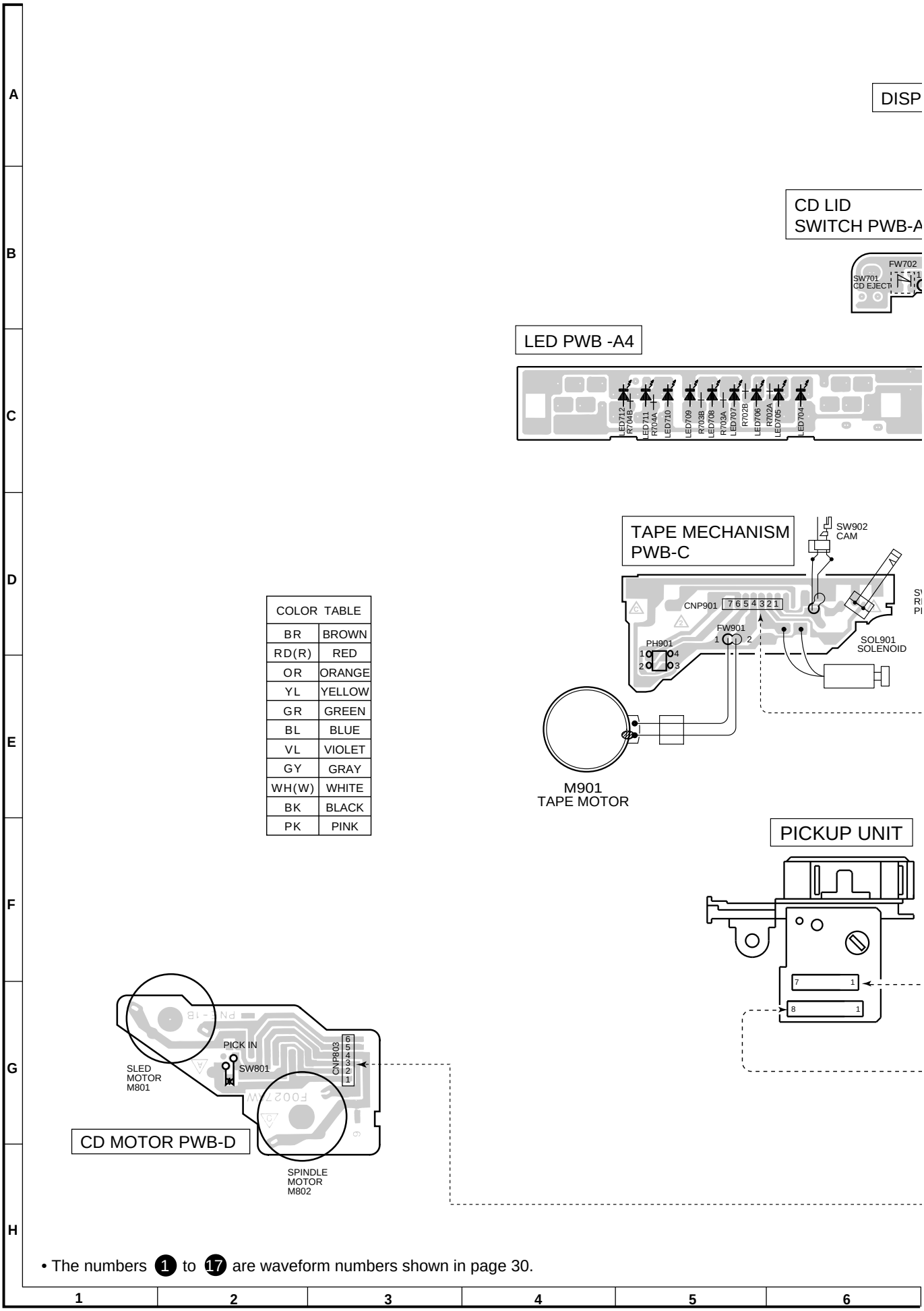
Figure 22 SCHEMATIC DIAGRAM (3/4)



• The numbers ❶ to ⓱ are waveform numbers shown in page 28.

7	8	9	10	11	12

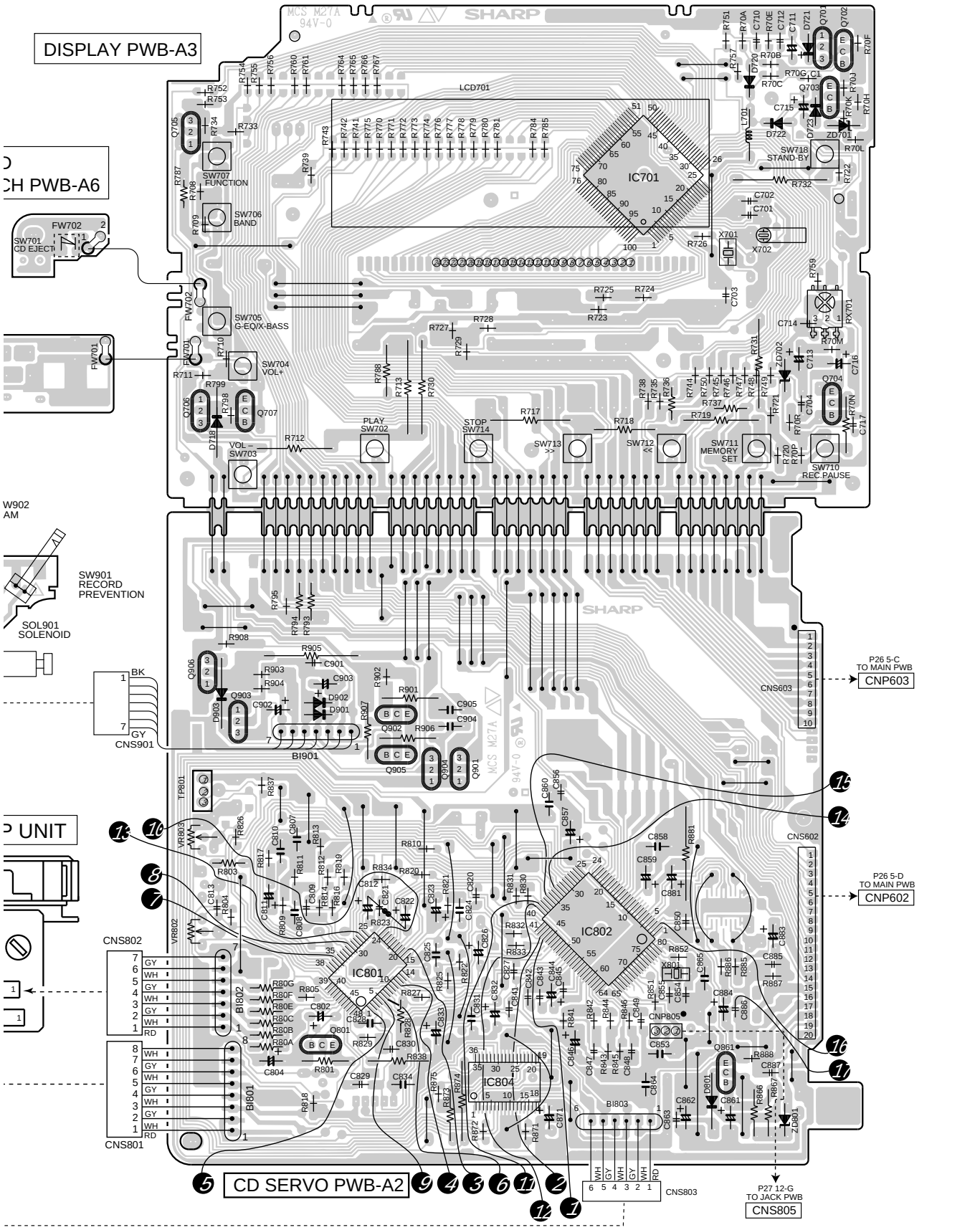
Figure 23 SCHEMATIC DIAGRAM (4/4)



COLOR TABLE	
BR	BROWN
RD(R)	RED
OR	ORANGE
YL	YELLOW
GR	GREEN
BL	BLUE
VL	VIOLET
GY	GRAY
WH(W)	WHITE
BK	BLACK
PK	PINK

• The numbers ❶ to ⓱ are waveform numbers shown in page 30.

Figure 24 WIRING SIDE OF P.W.BOARD (1/4)



7	8	9	10	11	12

Figure 25 WIRING SIDE OF P.W.BOARD (2/4)

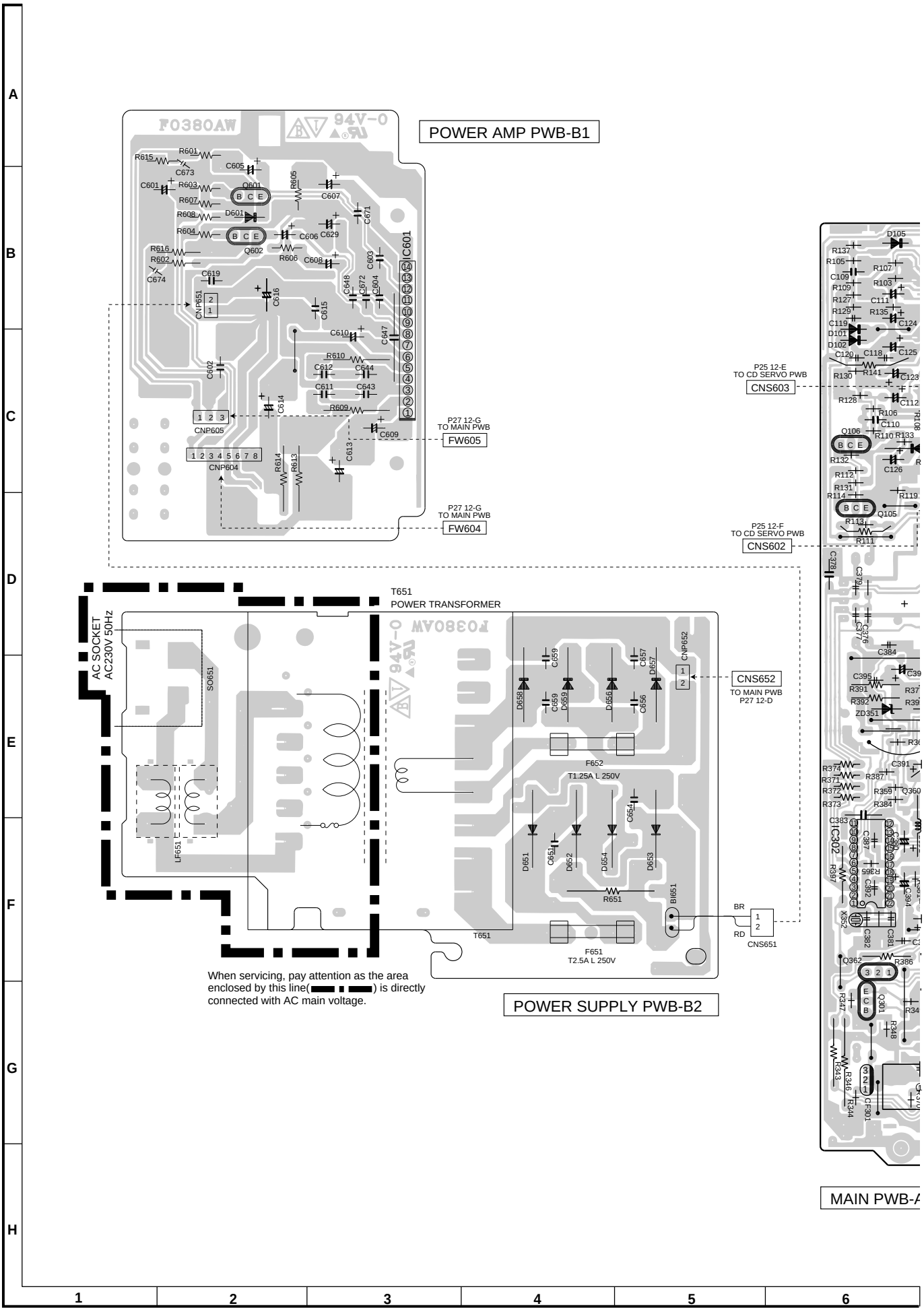
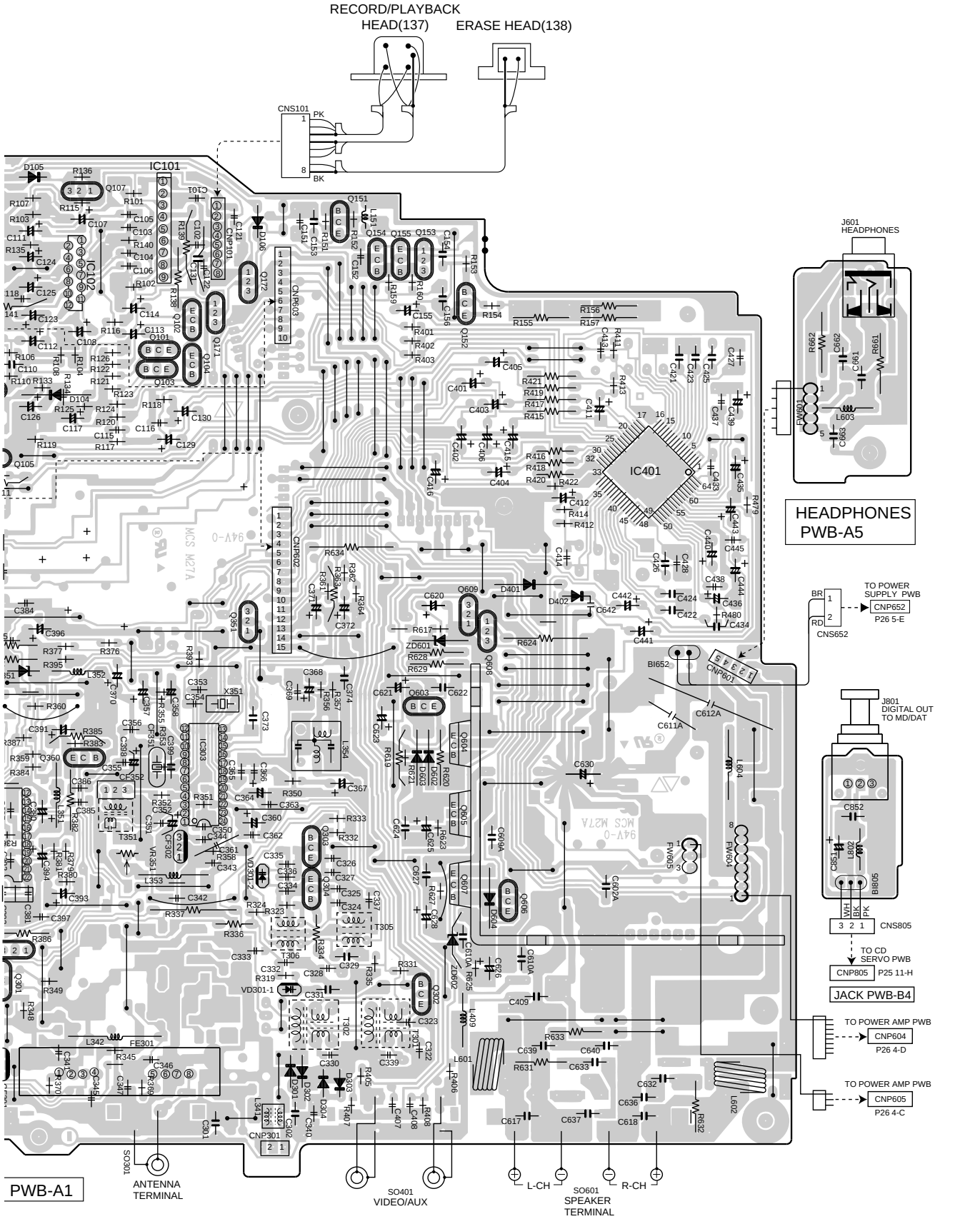


Figure 26 WIRING SIDE OF P.W.BOARD (3/4)



7	8	9	10	11	12

Figure 27 WIRING SIDE OF P.W.BOARD (4/4)

VOLTAGE

IC101

PIN NO.	VOLTAGE
1	0V
2	0V
3	0V
4	0.3V(8V)
5	0V
6	2.8V
7	0V
8	0V
9	0V

IC102

PIN NO.	VOLTAGE
1	4.6V
2	0V
3	0.6V
4	–
5	0V
6	0V
7	0V
8	10.2V
9	0V
10	0V(10.1V)
11	0.6V
12	4.6V

IC302

PIN NO.	VOLTAGE
1	2.6V
2	0V
3	0.1V
4	0.1V
5	4.8V
6	5.1V
7	1.7V(11.4V)
8	3.7V(0V)
9	3.9V
10	0V
11	0V
12	0V
13	3.5V
14	0V
15	0V(2.6V)
16	2.6V(0V)
17	5.2V
18	0.9V
19	0.9V
20	–
21	–
22	2.6V

IC303

PIN NO.	VOLTAGE
1	2.1V
2	5V
3	2.1V
4	2.1V
5	0V
6	5V
7	5V
8	2.9V(4.3V)
9	5V
10	0V
11	3.8V(1.9V)
12	3.8V(1.2V)
13	4V(2.2V)
14	–
15	1.3V
16	2.1V
17	2.3V(0V)
18	2.3V
19	0V(0.9V)
20	0.6V
21	2.1V(2.7V)
22	2.1V(2.7V)
23	5V
24	3.5V

IC401

PIN NO.	VOLTAGE
1	4.7V
2	4.7V
3	4.7V
4	4.7V
5	4.7V
6	4.7V
7	4.7V
8	4.7V
9	4.7V
10	4.7V
11	4.7V
12	4.7V
13	4.7V
14	4.7V
15	4.7V
16	4.2V
17	4.3V
18	–
19	4.3V
20	–
21	4.3V
22	–
23	0V
24	0V
25	0V
26	–
27	–
28	4.3V
29	–
30	4.3V
31	–
32	4.3V
33	4.2V
34	4.7V
35	4.7V
36	4.7V
37	4.7V
38	4.7V
39	4.7V
40	4.7V
41	4.7V
42	4.7V
43	4.7V
44	4.7V
45	4.7V
46	4.7V
47	4.7V
48	4.7V
49	4.7V
50	4.7V
51	4.7V
52	4.7V
53	4.7V
54	4.7V
55	4.7V
56	4.7V
57	9.4V
58	4.7V
59	4.7V
60	4.7V
61	4.7V
62	4.7V
63	4.7V
64	4.7V

IC701

PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	2.5V	51	0V
2	2.5V	52	0V
3	2.5V	53	0V
4	2.5V	54	0V
5	0V	55	0V
6	1.7V	56	0V
7	3.3V	57	5V
8	4.9V	58	0V
9	2.6V	59	4.1V
10	2.6V	60	4.1V
11	0V	61	3.9V
12	2.1V	62	3.9V
13	2.1V	63	0V
14	0V	64	4.9V
15	0V	65	0V
16	0V	66	0V
17	5V	67	2.5V
18	5V	68	2.5V
19	5V	69	2.5V
20	5V	70	2.5V
21	0V	71	2.5V
22	5V	72	2.5V
23	5V	73	2.5V
24	5V	74	2.5V
25	0V	75	2.5V
26	5V	76	2.5V
27	0V	77	2.5V
28	0V	78	2.5V
29	0V	79	2.5V
30	0V	80	2.5V
31	0V	81	2.5V
32	4.9V	82	2.5V
33	0V	83	2.5V
34	4.9V	84	2.5V
35	4.5V	85	2.5V
36	4.8V	86	2.5V
37	0V	87	2.5V
38	5V	88	2.5V
39	4.8V	89	2.5V
40	0.4V	90	2.5V
41	5.1V	91	2.5V
42	5.2V	92	2.5V
43	0.4V	93	2.5V
44	0V	94	2.5V
45	4.9V	95	2.5V
46	3.7V	96	2.5V
47	4.3V	97	2.5V
48	0V	98	2.5V
49	4.9V	99	2.5V
50	0V	100	2.5V

IC601

PIN NO.	VOLTAGE
1	25.7V
2	14.7V
3	0V
4	0V
5	14.6V
6	25.8V
7	28.7V
8	1.22V
9	0V
10	27.7V
11	0V
12	2.07V
13	0V
14	1.22V

IC801

PIN NO.	VOLTAGE
1	2.4V
2	2.1V
3	2.1V
4	4.2V
5	2.2V
6	2.2V
7	2.2V
8	0V
9	2V
10	2.1V
11	2.2V
12	2V
13	2.2V
14	2.2V
15	2.2V
16	2.3V
17	2.3V
18	2.5V
19	0V
20	5V
21	5V
22	2.2V
23	2.1V
24	2.2V
25	2V
26	2.1V
27	2.1V
28	2.1V
29	0V
30	2.1V
31	2.1V
32	2.1V
33	0V
34	2.1V
35	2.1V
36	2.3V
37	2.1V
38	2.2V
39	1.8V
40	2.1V
41	2.1V
42	1.9V
43	2.1V
44	2.2V
45	2.6V
46	0.3V
47	2.2V
48	1.9V

IC802

PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	0V	41	4.2V
2	2.3V	42	5V
3	2.6V	43	–
4	5V	44	–
5	2.6V	45	–
6	2.3V	46	–
7	0V	47	2.2V
8	5V	48	2.1V
9	5V	49	2.1V
10	5V	50	2.2V
11	5V	51	2.2V
12	5V	52	2.1V
13	0V	53	–
14	4.2V	54	0V
15	4.1V	55	–
16	4.2V	56	–
17	4V	57	–
18	3.8V	58	5V
19	4.3V	59	5V
20	2.3V	60	0V
21	5V	61	–
22	0.1V	62	–
23	5 V	63	–
24	0.4V	64	–
25	5V	65	0V
26	0V	66	5V
27	0.2V	67	0V
28	2.1V	68	1.3V
29	2.1V	69	1.7V
30	2.1V	70	2.5V
31	2.4V	71	2.5V
32	2.1V	72	0.3V
33	1.9V	73	2.5V
34	2.1V	74	0V
35	5V	75	2.4V
36	2V	76	5V
37	5V	77	5V
38	2.1V	78	2.2V
39	2.1V	79	2.2V
40	2.2V	80	0V

IC804

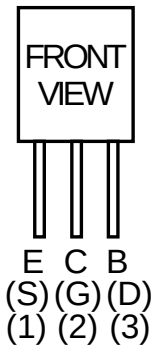
PIN NO.	VOLTAGE
1	2.1V
2	2.1V
3	–
4	2.1V
5	2.1V
6	2.3V
7	2.3V
8	0V
9	0V
10	0V
11	0V
12	0 V
13	2.3V
14	2.1V
15	2.6V
16	0V
17	5.4V
18	0V
19	–
20	5.4V
21	2.1V
22	2.1V
23	2V
24	2.7V
25	0V
26	0V
27	0V
28	0V
29	0V
30	1.8V
31	2.7V
32	–
33	0V
34	–
35	0V
36	0V

NOTES ON SCHEMATIC DIAGRAM

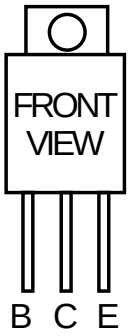
- Resistor:
  To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with “Fusible” is a fuse type.
- Capacitor:
  To indicate the unit of capacitor, a symbol P is used: this symbol P means micro-micro-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression “capacitance/withstand voltage” is used.
  (CH), (TH), (RH), (UJ): Temperature compensation
  (ML): Mylar type
  (P.P.): Polypropylene type
- Schematic diagram and Wiring Side of P.W.Board for this model are subject to change for improvement without prior notice.
- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.
  1. In the tuner section,
     ( ) indicates AM
     < > indicates FM stereo
  2. In the main section, a tape is being played back.
  3. In the deck section, a tape is being played back.
     ( ) indicates the record state.
  4. In the power section, a tape is being played back.
  5. In the CD section, the CD is stopped.
- Parts marked with “ ⚠ ” (⊏ ニ ニ ニ ⊐) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF. NO	DESCRIPTION	POSITION
SW701	CD EJECT	ON—OFF
SW702	PLAY/CD PAUSE/TUNING UP	ON—OFF
SW703	VOLUME DOWN	ON—OFF
SW704	VOLUME UP	ON—OFF
SW705	X-BASS/EQUALIZER	ON—OFF
SW706	BAND	ON—OFF
SW707	FUNCTION	ON—OFF
SW710	REC. PAUSE	ON—OFF

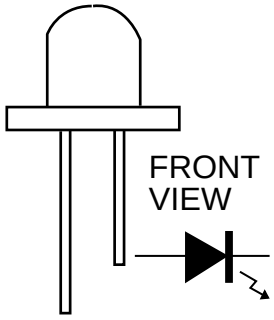
REF. NO	DESCRIPTION	POSITION
SW711	MEMORY/SET	ON—OFF
SW712	PRESET DOWN	ON—OFF
SW713	PRESET UP	ON—OFF
SW714	STOP/CLEAR	ON—OFF
SW718	ON/STAND-BY	ON—OFF
SW801	PICKUP IN	ON—OFF
SW901	RECORD PREVENTION	ON—OFF
SW902	CAM	ON—OFF



2SA1015 GR
2SB562 C
2SC2001 K
2SC380 O
2SD468 C
KRA102 M
KRA107 M
KRC102 M
KRC104 M
KRC107 M
KTA1266 GR
KTC3199 GR
2SC535 C



2SD2012 Y

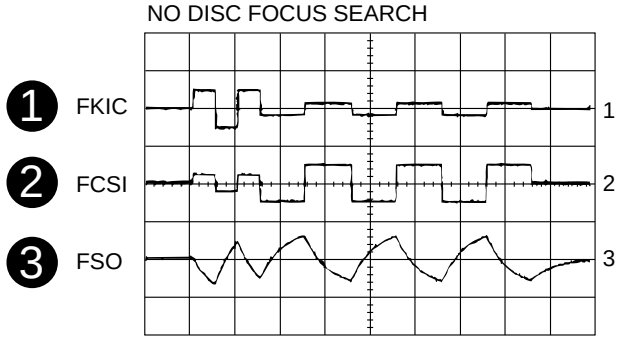


204GDTR4

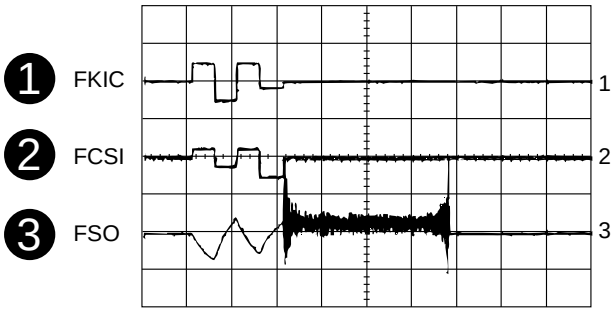
Figure 29 TYPES OF TRANSISTOR AND LED

WAVEFORMS OF CD CIRCUIT

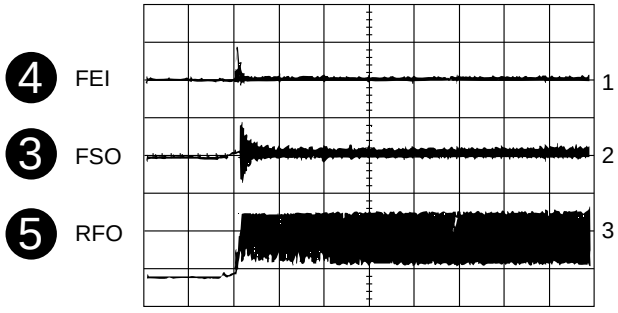
NO DISC FOCUS SEARCH



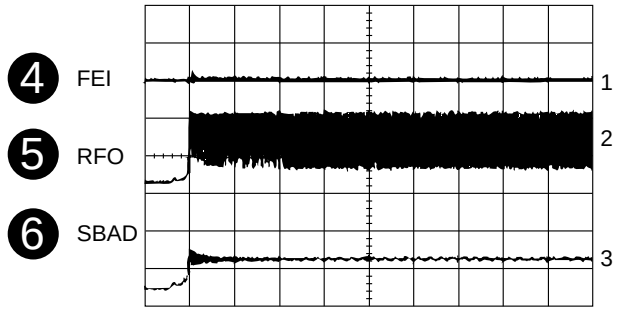
FOCUS SEARCH → IL



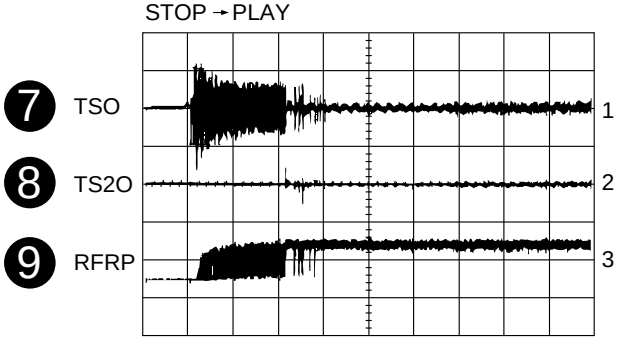
STOP → PLAY



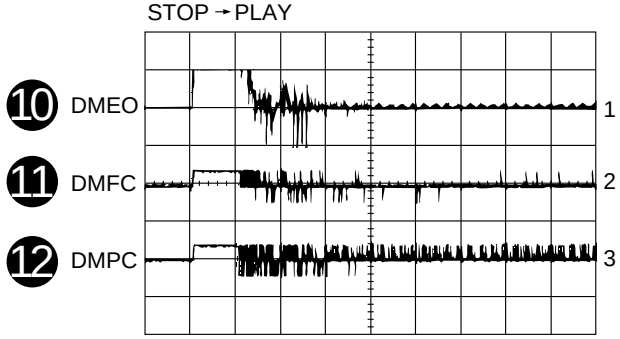
STOP → PLAY



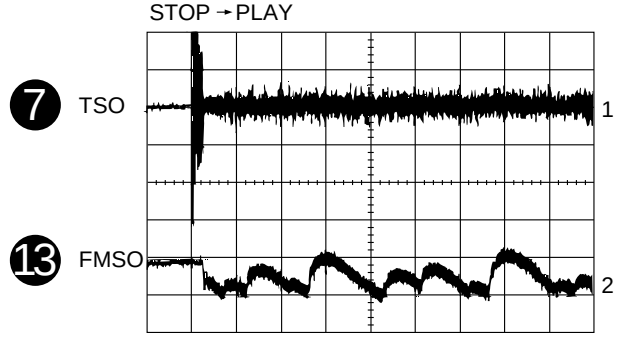
STOP → PLAY



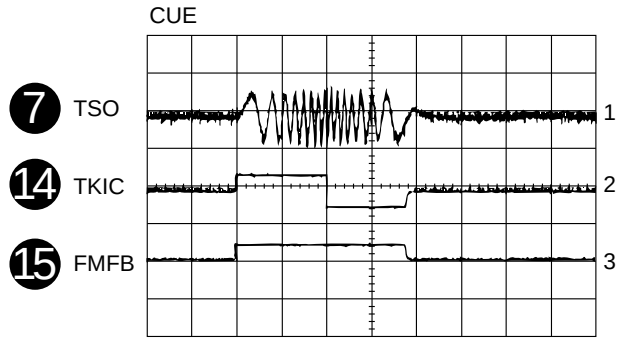
STOP → PLAY



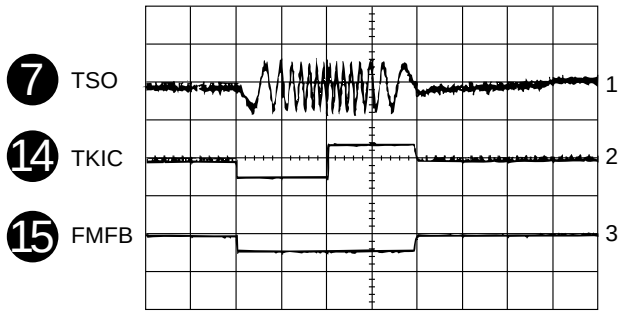
STOP → PLAY



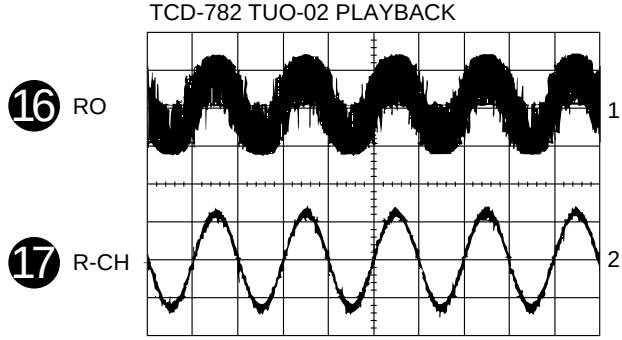
CUE



REVIEW



TCD-782 TUO-02 PLAYBACK

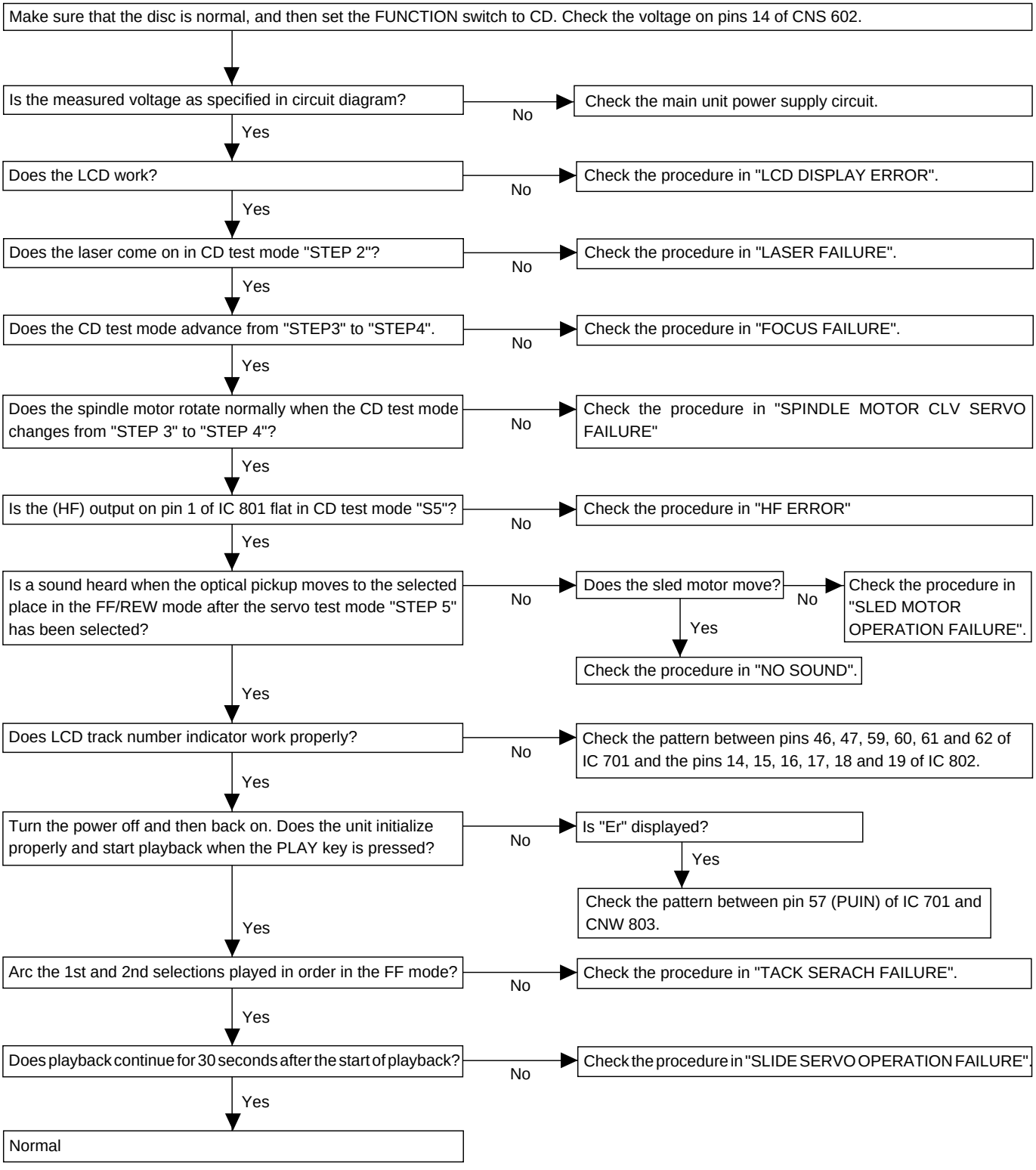


TROUBLESHOOTING (CD SECTION)

When the CD does not function

When the CD section does not operate When the objective lens of the optical pickup is dirty,this section may not operate.Clean the objective lens,and check the playback operation.When this section does not operate even after the above step is taken,check the following items.
Remove the cabinet and follow the troubleshooting instructions.
"Track skipping and/or no TOC(Table Of Contents) may be caused by build up of dust other foreign matter on the laser pickup lens. Before attempting any adjustment make certain that the lens is clean. If not, clean it as mentioned below."

Turn the power off.
Gently clean the lens with a lens cleaning tissue and a small amount of isopropyl alcohol.
Do not touch the lens with the bare hand.


Make sure that the disc is normal, and then set the FUNCTION switch to CD. Check the voltage on pins 14 of CNS 602.
Is the measured voltage as specified in circuit diagram?
No
Check the main unit power supply circuit.
Yes
Does the LCD work?
No
Check the procedure in "LCD DISPLAY ERROR".
Yes
Does the laser come on in CD test mode "STEP 2"?
No
Check the procedure in "LASER FAILURE".
Yes
Does the CD test mode advance from "STEP3" to "STEP4".
No
Check the procedure in "FOCUS FAILURE".
Yes
Does the spindle motor rotate normally when the CD test mode changes from "STEP 3" to "STEP 4"?
No
Check the procedure in "SPINDLE MOTOR CLV SERVO FAILURE"
Yes
Is the (HF) output on pin 1 of IC 801 flat in CD test mode "S5"?
No
Check the procedure in "HF ERROR"
Yes
Is a sound heard when the optical pickup moves to the selected place in the FF/REW mode after the servo test mode "STEP 5" has been selected?
No
Does the sled motor move?
No
Check the procedure in "SLED MOTOR OPERATION FAILURE".
Yes
Check the procedure in "NO SOUND".
Yes
Does LCD track number indicator work properly?
No
Check the pattern between pins 46, 47, 59, 60, 61 and 62 of IC 701 and the pins 14, 15, 16, 17, 18 and 19 of IC 802.
Yes
Turn the power off and then back on. Does the unit initialize properly and start playback when the PLAY key is pressed?
No
Is "Er" displayed?
Yes
Check the pattern between pin 57 (PUIN) of IC 701 and CNW 803.
Yes
Arc the 1st and 2nd selections played in order in the FF mode?
No
Check the procedure in "TACK SERACH FAILURE".
Yes
Does playback continue for 30 seconds after the start of playback?
No
Check the procedure in "SLIDE SERVO OPERATION FAILURE".
Yes
Normal

• LCD indication error.

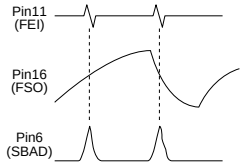
Is +5V applied to the pin 8 (VDD) of IC701?
- No → Is +5.6V applied to the emitter of Q704?
  - No → Check the pattern between Q704 and CNS603.
  - Yes → Check the pattern between Q704 and IC704.
- Yes → Is +5V applied to the pin 38 (SYS STOP) of IC701?
  - No → Check the PWB pattern between the collector of Q702 and Q701.
  - Yes → Check the peripheral parts of IC701 and LCD701.

• Laser lighting failure.

Is +2.5V applied to the pin 42 of IC802?
- No → Does the laser come on when pattern cut between pin 21 of IC801 and pin 42 of IC802.
  - Yes → Check the PWB pattern between IC701 and IC802 (BUCK/CCE/ BUS0~3)
  - No
- Yes → Is approx. 2V applied to the collector of Q801.
  - No → Check the peripheral parts of IC801 and Q801. If it is normal, the optical pickup is faulty.
  - Yes → Check CNW802. If it is normal, the optical pickup is faulty.

• Focus failure.

Does the optical pickup move up and down when the disc is removed?
- No → Check as stated in item "FOCUS SERVO SAWTOOTH WAVE FAILURE".
- Yes → Is the following waveform ouput at the pin 11 (FEI) of IC801 when the disc is set?
  - No → Check the periphery of IC801 and CNW802. is it normal?
    - Yes → The optical pickup is faulty.
    - Yes → The periphery of IC801 or CNW802 is faulty.
  - Yes



Is the waveform shown above input at the pin 50 (SBAD) of IC802?
- No → Check the pattern between pin 6 of IC801 and pin 50 of IC802.
- Yes → IC801 is faulty.

• Focus servo sawtooth wave is not ouput.

Is +5V applied to the pin 20 (VCC) of IC801?
- No → Check the pattern between pin 20 of IC801 and Q861.
- Yes ↓

Is sawtooth wave output to the pin 16 (FSO) of IC801?
- No → Is the following waveform shown below obtained?
  - No → Check R823 and R833 of pins 43 and 44 of IC802. If OK, IC801 is faulty.
  - Yes (the sawtooth wave fluctuates once to a side). → Check the periphery of pin 17 (COSC) of IC801. If OK, IC801 is faulty.

- Yes ↓

Is sawtooth wave obtained at the pin 33 of IC804 (as shown above)?
- No → Check pattern between pin 58 (CD STB) of IC701 and pin 36 of IC804. If OK, signal line connection failure between pin 16 (FSO) of IC801 and pin 33 of IC804.
- Yes ↓

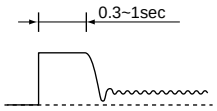
Is sawtooth wave obtained between pins 30 and 31 of IC804 (as shown above)?
- No → Check the peripheral parts of IC804 and power line. If OK, IC804 is faulty.
- Yes ↓

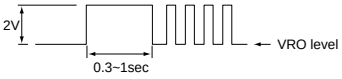
Is sawtooth wave obtained between pins 3 and 4 of CNW801 (as shown above)?
- No → Check the pattern between IC804 and CNW801.
- Yes ↓

CNW801 connection failure or optical pickup failure.

• Spindle motor clv servo failure.

Does the spindle motor rotate?
- No → Is voltage oobtained for spprox 0.3 to 1.5 sec between the pins 24 and 25 of IC804 when the CD test mode "STEP3" is changed to "STEP4"
  - Yes → Spindle motor failure or wire breakage.
  - No → Is the waveform shown above at the pin 24 of IC801.
    - No → Check whether the pins 39 and 40 of IC802 is set to HIGH for approx. 0.3 to 1.5 sec and then pulse is obtained when the CD test mode STEP3 is changed to "STEP4"?
      - No → IC802 is faulty.
      - Yes ↓ Check the periphery IC801. If OK, IC801 is faulty.
    - Yes ↓ Check the pattern between IC801 and IC804.
- Yes (excessively high speed rotation) ↓





Does the eye pattern appear at the pin 1 (RFO) of IC 801? (Although the waveform is not clear.)
- No → Check again that the objective lens of optical pickup is not contaminated. If it is contaminated, clean. Check the periphery of IC801 and CNW802. If OK, the optical pickup is faulty.
- Yes ↓

Is eye pattern Vp-p1.4V output at the pin 53 (RFI) of IC802?
- No → Check the PWB pattern and C841.
- Yes ↓

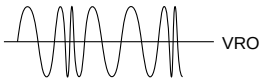
Check the periphery pins 55~64 to IC802. If OK, IC802 is faulty.

• HF error.

Is output (tracking error signal) obtained at the pin 35 (TSO) of IC801 when the CD test mode "STEP4" is set?

No → Check IC801 and the periphery of CNW802. If OK, the optical pickup is faulty.

Yes



Is tracking output obtained at the pin 30 (TS20) of IC801 when the CD test mode "STEP5" is set?

No → Check the peripheral parts of IC801. If OK, IC801 is faulty.

Yes

Is output obtained between the pins 6 and 7 of IC804?

No → Check the peripheral parts of IC804. If OK, IC804 is faulty,

Yes

Check the connection between IC804 and CNW801.
If OK, the optical pickup is faulty.

• No sound.

No sound from both L and R-ch?

No → Check the interval between the pins 11 and 12 CNS602 as well as between the pins 2 and 6 of IC602.

Yes

Is power supply voltage of IC802 normal?

No → Check power supply line.

Yes

Is signal of pins 2 and 6 of IC802 output?

No → Check the peripheral parts of IC802. If OK, IC802 is faulty.

Yes

The main PWB is faulty.

• Track search failure

Does the sled motor run in FF/REW state when the servo test mode "STEP1" is set?

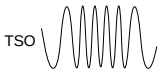
No → Check as stated in item "SLED MOTOR OPERATION FAILURE".

Yes

Is the following waveform output at the pin 35 (TSO) of IC801 during track search in normal playback?

No → Check the pattern between pins 34, 35 of IC801 and pins 48,49 of IC802.

Yes

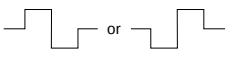


Is the following waveform output at the pin 5 (RFRP) of IC801 during track jump?

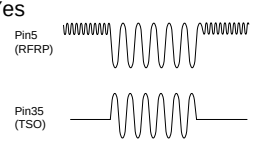
No → Check the C828. If OK, IC801 is faulty.

* The state where the waveform shown left is output at the pin 33 (TKIC) of IC802 is referred to as track jump state.

Kick Pulse



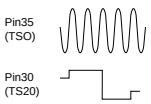
Yes



Is the following waveform output at the pin 30 (TS20) and pin 35 (TSO) of IC801 during track jump?

No → Check pattern between pin 33 of IC802 and pin 31 of IC801. If OK, IC801 is faulty.

Yes



Check the pariphery of pin 30 (TS20) and pin 26 (FUSO) of IC801.

• Sled motor operation failure.

Is slide feed signal output between the pin 26 (FUSO), 27 (FMSM) of IC801 and the pin 15 of IC804 when FF/REW is pressed after the servo test mode "STEP1" is SET?

No → Check the pattern between pin 27 of IC801 and pin 36 of IC802. Check the connection of peripheral parts of IC801. If OK, IC801 is faulty.

Yes ↓

Is slide feed signal output between the pins 12 and 13 of IC804?

No → Check the peripheral parts of IC804. If OK, IC804 is faulty.

Yes ↓

Is slide feed voltage applied between both terminals of sled motor?

No → Check CNW803.

Yes ↓

Check the CD mechanism (periphery of Slide mechanism). If the sled motor does not run when DC2.0V is applied at both ends, the sled motor is faulty.

• Slide servo operation failure.

Is the following waveform input to the pin 28 (FMSD) of IC801 during playback?

No → Check the periphery of pin 28 (FMSP) and pin 30 (TS20) of IC801.

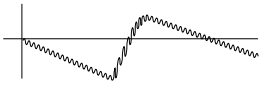
Yes ↓

Is the following waveform output at the pin 26 (FMSO) of IC801?

No → IC801 is faulty.

Yes ↓

Rotation cycle of spin moter



Voltage differs according to disc eccentricity.

The slide servo system is not faulty. Redo check.

FUNCTION TABLE OF IC

IC701 RH-iX0189AWZZ:System Microcomputer(iX0189AW) (1/2)

Pin No.	Terminal Name	Input/Output	Function
1-4	COM3-COM0	Output	LCD COMMON output terminal
5-7	VLC3-VLC1	—	LCD power terminal
8	VDD	—	Microcomputer power supply +5V.
9	OSC2	Output	Main clock oscillator connection terminal f=8MHz
10	OSC1	Input	Main clock oscillator connection terminal f=8MHz
11	VSS	—	Microcomputer power supply GND
12	XI	Input	Sub-clock oscillator connection terminal f=32.768kHz
13	XO	Output	Sub-clock oscillator connection terminal f=32.768kHz
14	MMOD	Input	Memory mode selection terminal
15	VREF-	—	Power supply for AD converter GND
16	AREA	Input	Destination detection input this terminal serves as an A/D input port. When resetting is performed, the destination setting is detected based on the DC voltage.
17	KEY1 AN0/PA1	Input	Operation key input, max. 8 keys
18	KEY2 AN0/PA2	Input	Operation key input, max. 8 keys
19	POWER	Input	POWER key input detection
20*	VSM	Input	Tuner signal meter (S meter) voltage input terminal IX0189AW: Unused terminal (regular input port)
21	F.P	Input	Cassette tape erroneous erasing preventing lug detection input H: Record inhibited L: Record enable
22	RUN PLS	Input	Tape run/END detection input If pulse input is detected, it is judged that the tape is running.
23	CAM SW	Input	Cassette mechanism operation status detection input H: Mechanism stop L: Mechanism in operation
24	VREF+	—	A/D converter power supply +5V
25	DI	Output	Terminal to output data to TUNER PLL IC
26	DO	Input	Data input from TUNER PLL IC
27	CL	Output	TUNER PLL IC sync clock output
28	VDI	Output	Terminal to output data to VOL IC
29	VCE	Output	VOL IC chip enable output "L"=OFF "H"=ON
30	VCL	Output	VOL IC sync clock output
31	CE	Output	TUNER PLL IC enable output "L"=OFF "H"=ON
32	RESET	Input	RESET signal input
33*	—	—	No Connect
34	P-MUTE	Output	Power mute output "H"=MUTE OFF "L"=MUTE ON
35	P-CONT	Output	Power amplifier operation control output H: Amplifier operation ON L: Amplifier operation OFF
36	CD+B	Output	CD servo power circuit control output H: CD power ON L: CD power OFF
37	FUNC	Input	Function setting input Reset mode: H: 4-step selection L: 3-step selection
38	SYS STOP	Input	Power failure detection input L: Change to HALT mode
39	REMOCON	Input	Remote controller signal input
40*	CLE	Input	RDS IC sync clock input
41	STEREO	Input	Radio stereo broadcast reception detection input L: Stereo broadcast reception
42	SD	Input	Broadcast reception status detection input L: Broadcast wave reception
43*	ID	Input	RDS signal reception status detection H: RDS not received L: RDS received
44*	DATA	Input	Data input from RDS IC
45	CD RES	Output	LC78623E RESET signal output
46	CEE	Output	TC9284F chip enable terminal L: BUS terminal active
47	BUCK	Output	TC9284F data sync clock output
48	R-MUTE	Output	TUNER mute output "H"=MUTE ON "L"=MUTE OFF
49*	LED2	Output	IND LED control output (when SRS2 is on) H: LED goes out L: LED lights
50*	LED3	Output	IND LED control output (when SRS1 is on) H: LED goes out L: LED lights
51	SOL	Output	Cassette mechanism solenoid drive control output
52	MOT	Output	Cassette mechanism motor drive control output

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC701 RH-iX0189AWZZ:System Microcomputer(iX0189AW) (2/2)

Pin No.	Terminal Name	Input/Output	Function
53	REC	Output	Tape circuit record/playback selection output H:Record Mode L:Playback Mode
54	B-CAN	Output	Record bias oscillation frequency selection control output
55	BIAS	Output	Record bias oscillation circuit control output H: Bias oscillation L: Oscillation stop
56	LID-SW	Input	CD lid status detection input L: Lid closed H: Lid opened
57	PU-IN	Input	CD pickup position detection SW input L: Innermost periphery
58	CD STB	In/Output	CD servo control IC ON/OFF output terminal L: Servo On H: Servo Stand-by
59-62	BUS 0-3	In/Output	TC9284F control data input/output terminal
63*,64*	SRS2,1	Output	SRS control output
65*-68*		—	No connect
69-100*	SEG31-0	—	LCD SEGMENT output Note: Since RH-IX0189AWZZ is a 24-pin LCD, SEG0 of LCD is connected to SEG7 of microcomputer output terminal (sequential connection up to SEG26).

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

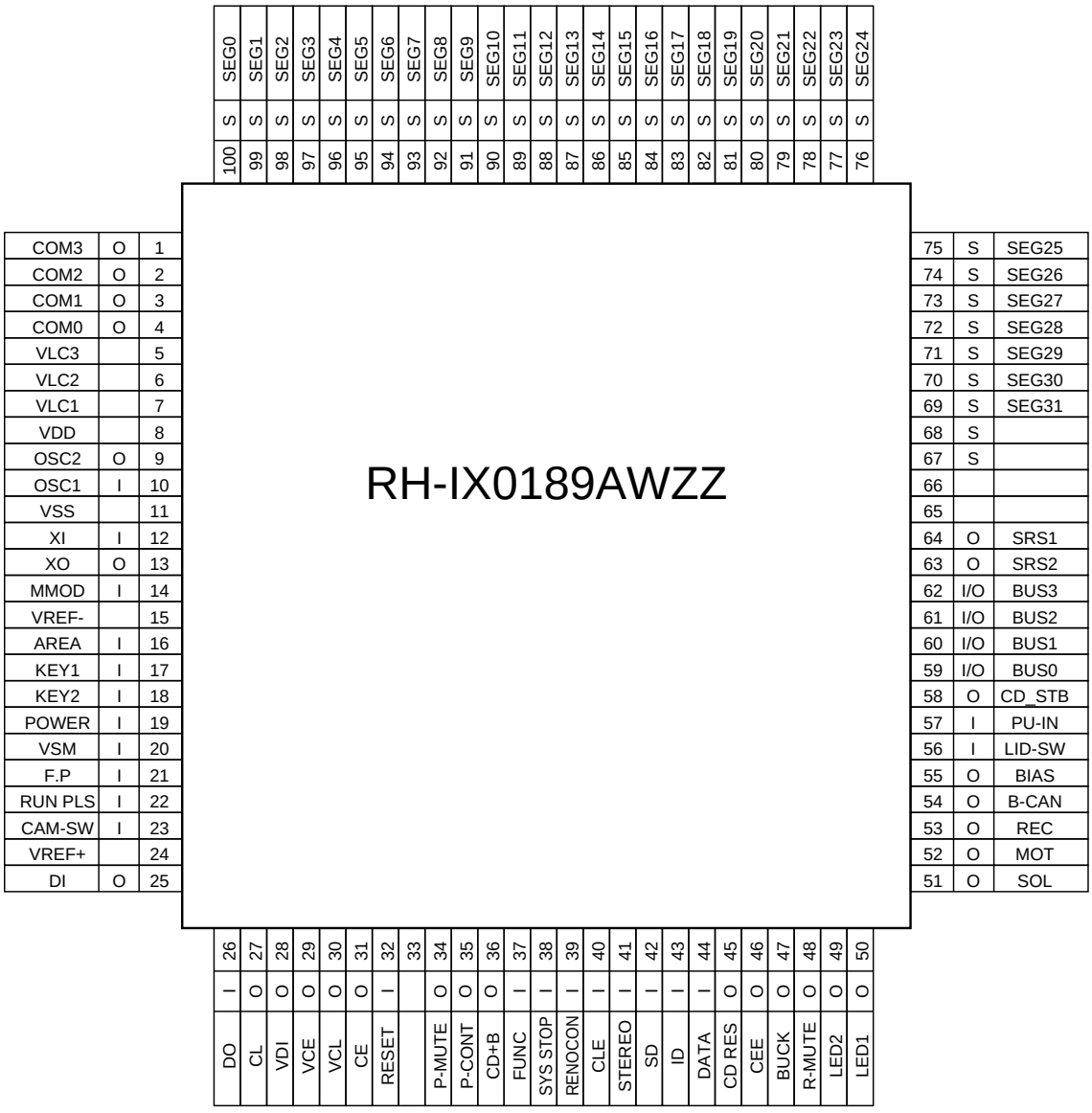


Figure 37 BLOCK DIAGRAM OF IC

IC802 VHiTC9284BF-1:Servo/Signal Control (TC9284BF) (1/2)

<table>
<tr><th>Pin No.</th><th>Port Name</th><th>Input/Output</th><th>Function</th></tr>
<tr><td>1</td><td>GNDA</td><td>—</td><td>Analog grand terminal fo DA vonverter (R channel)</td></tr>
<tr><td>2</td><td>RO</td><td>Output</td><td>R channel data forward output terminal.</td></tr>
<tr><td>3*</td><td>$\overline{RO}$</td><td>Output</td><td>R channel data reverse output terminal.</td></tr>
<tr><td>4</td><td>VDA</td><td>—</td><td>Analog power supply terminal for DA converter.</td></tr>
<tr><td>5*</td><td>$\overline{LO}$</td><td>Output</td><td>L channel data reverse output terminal.</td></tr>
<tr><td>6</td><td>LO</td><td>Output</td><td>L channel data forward output terminal.</td></tr>
<tr><td>7</td><td>GNDA</td><td>—</td><td>Analog grand terminal for DA converter (L channel)</td></tr>
<tr><td>8*-10*</td><td>$\overline{TEST3}$-$\overline{TEST5}$</td><td>Input</td><td>Test terminal. Normally, keep at "H" level or open.</td></tr>
<tr><td>11*</td><td>SBOK</td><td>Output</td><td>Subcode Q data CRC check adjusting result output terminal.
The adjusting result is OK at "H" level.</td></tr>
<tr><td>12</td><td>VDD</td><td>—</td><td>Digital supply voltage terminal. (+5V)</td></tr>
<tr><td>13</td><td>GND</td><td>—</td><td>Digital ground terminal.</td></tr>
<tr><td>14-17</td><td>BUS0-BUS3</td><td>In/Output</td><td>Command and data sending/receiving input/output terminals.</td></tr>
<tr><td>18</td><td>$\overline{CCE}$</td><td>Input</td><td>Command and data sending/receiving chip enable signal input terminal.
The bus line becomes active at "L" level.</td></tr>
<tr><td>19</td><td>BUCK</td><td>Input</td><td>Command and data sending/receiving clock input terminal.</td></tr>
<tr><td>20*</td><td>PFCK</td><td>Output</td><td>Regeneration system frame periodic signal output terminal. 7.35 kHz</td></tr>
<tr><td>21</td><td>$\overline{RST}$</td><td>Input</td><td>Reset input terminal. The internal system is reset at "L" level.</td></tr>
<tr><td>22*</td><td>SUBSYC</td><td>Output</td><td>Subcode sync signal output terminals.</td></tr>
<tr><td>23*</td><td>SUBD</td><td>Output</td><td>Subcode P~W output terminals.</td></tr>
<tr><td>24*</td><td>CLCK</td><td>Input</td><td>Subcode P~W data readout clock input terminal.</td></tr>
<tr><td>25</td><td>VDD</td><td>—</td><td>Digital supply voltage terminal.</td></tr>
<tr><td>26</td><td>GND</td><td>—</td><td>Digital ground terminal.</td></tr>
<tr><td>27*</td><td>DFCT</td><td>Output</td><td>Defect detection signal output terminal. VREF when defect is detected. Normally, HiZ.</td></tr>
<tr><td>28,29</td><td>TEL2,1</td><td>Output</td><td>Tracking gain adjusting analog switch output terminals VREF or Hiz.</td></tr>
<tr><td>30</td><td>TGUL</td><td>Output</td><td>Tracking servo loop low frequency phase compensator change-over analog switch output terminal. HiZ (gain up) when detecting shock. Normally, VREF.</td></tr>
<tr><td>31*,32</td><td>TGUH2,1</td><td>Output</td><td>Tracking servo loop middle/high frequecy phase compensator change-over analog switch output terminals. HiZ (gain up) when detecting shock. Normally, VREF. TGUH1 is used at normal regeneration and TGUH2 is used at double speed regeneration.</td></tr>
<tr><td>33</td><td>TKIC</td><td>Output</td><td>Tracking actuator kick signal output terminal. Kicks in the outer circumferential direction ar "H" level and in the inner circumferential direction at "L" level.</td></tr>
<tr><td>34</td><td>FMON</td><td>Output</td><td>Feed servo ON/OFF analog switch output terminals.
Servo on at "Hiz". Servo off at "VREF".</td></tr>
<tr><td>35*</td><td>$\overline{TEST1}$</td><td>Input</td><td>Test terminal. Normally, keep at "H" level or open.</td></tr>
<tr><td>36</td><td>FMFB</td><td>Output</td><td>Feed motor FWD/BWD feeding control signal output terminal. Feed in the outer circumferential direction at "H" level and in the inner circumferential direction at "L" level.</td></tr>
<tr><td>37*</td><td>$\overline{TEST}$</td><td>Input</td><td>Test terminal. Normally, keep at "H" level or open.</td></tr>
<tr><td>38</td><td>DMON</td><td>Output</td><td>Disc motor driving circuit gain change-over analog switch output terminal.</td></tr>
<tr><td>39</td><td>DMFC</td><td>Output</td><td>Disc motor CLV servo AFC signal output terminal.
<table>
<tr><th>COMMAND</th><th>DMFC OUTPUT</th><th>OPERATION</th></tr>
<tr><td>DMFK</td><td>H</td><td>Motor acceleration</td></tr>
<tr><td>DMSV</td><td>PWM</td><td>CLV servo ON</td></tr>
<tr><td>DMBK</td><td>L</td><td>Motor deceleration</td></tr>
<tr><td>DMOFF</td><td>VREF</td><td>CLV servo OFF</td></tr>
</table></td></tr>
<tr><td>40</td><td>DMPC</td><td>Output</td><td>Disc motor CLV servo APC signal output terminal.</td></tr>
<tr><td>41</td><td>2VREF</td><td>Input</td><td>Double times reference voltage input terminal. (VREF x2)</td></tr>
<tr><td>42</td><td>SEL</td><td>Output</td><td>Servo mode indicating signal output terminal.
<table>
<tr><th>SEL</th><th>LD ON/OFF</th><th>FOCUS SERVO</th><th>OPERATION</th></tr>
<tr><td>L</td><td>OFF</td><td>OFF</td><td>LD OFF</td></tr>
<tr><td>HiZ</td><td>ON</td><td>OFF</td><td>Focus Search</td></tr>
<tr><td>H</td><td>ON</td><td>ON</td><td>Normal play, etc.
Focus Servo ON : FOK</td></tr>
</table></td></tr>
</table>

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC802 VHiTC9284BF-1:Servo/Signal Control (TC9284BF) (2/2)

<table>
<tr><th>Pin No.</th><th>Port Name</th><th>Input/Output</th><th>Function</th></tr>
<tr><td>43</td><td>FCSI</td><td>Output</td><td>Focus actuator driving signal output terminal in the focus search mode.
<table>
<tr><th>COMMAND</th><th>FCSI OUTPUT</th><th>OPERATION</th></tr>
<tr><td>FORST</td><td>H</td><td>Lens gets for away from disc</td></tr>
<tr><td>FOSET</td><td>L</td><td>Lens gets near disc</td></tr>
<tr><td>Others</td><td>HiZ</td><td>Other than focus search</td></tr>
</table></td></tr>
<tr><td>44</td><td>FKIC</td><td>Output</td><td>Focus actuator driving signal output terminal in the focus gain adjusting mide.
<table>
<tr><th>COMMAND</th><th>FKIC OUTPUT</th><th>OPERATION</th></tr>
<tr><td>FGASR</td><td>H</td><td>Lens gets for away from disc</td></tr>
<tr><td>FGASS</td><td>L</td><td>Lens gets near disc</td></tr>
<tr><td>Others</td><td>HiZ</td><td>Other than focus adjustment</td></tr>
</table></td></tr>
<tr><td>45*,46*</td><td>FEL2,1</td><td>Output</td><td>Focus again adjusting analog switch output terminals.</td></tr>
<tr><td>47</td><td>FEI</td><td>Input</td><td>Focus error signal input terminal.</td></tr>
<tr><td>48</td><td>TESH</td><td>Input</td><td>Tracking error signal input sample holding analog switch input terminal.</td></tr>
<tr><td>49</td><td>TEOF</td><td>Output</td><td>Tracking servo operation ON/OFF analog switch output terminal.
VREF when the tracking servo is OFF.</td></tr>
<tr><td>50</td><td>SBAD</td><td>Input</td><td>Sub beam adding signal input terminal.</td></tr>
<tr><td>51</td><td>RFRP</td><td>Input</td><td>RF ripple signal input terminal.</td></tr>
<tr><td>52</td><td>VREF</td><td>Input</td><td>Reference voltage input terminal. (+2.1V)</td></tr>
<tr><td>53</td><td>RFI</td><td>Input</td><td>RF signal input terminal.</td></tr>
<tr><td>54</td><td>GNDA</td><td>—</td><td>Analog ground terminal.</td></tr>
<tr><td>55</td><td>DTSC2</td><td>Output</td><td>Data slice control EFM signal passive output terminal.</td></tr>
<tr><td>56*</td><td>MONIT</td><td>Output</td><td>Internal signal (EFMO, PLCK, LOCK and MBOV) output terminal. Slected by command.</td></tr>
<tr><td>57</td><td>DTSC1</td><td>Output</td><td>Data slice control EFM signal nagative output terminal.</td></tr>
<tr><td>58</td><td>VDDA</td><td>—</td><td>Analog supply voltage terminal. (+5V)</td></tr>
<tr><td>59</td><td>PDCNT</td><td>Input</td><td>PDO output control terminal.
At "L" level, PDO output is made to HiZ by force.</td></tr>
<tr><td>60</td><td>PDO</td><td>Output</td><td>Phase error signal output terminal between EFM signal and PLCK.</td></tr>
<tr><td>61</td><td>TMAX</td><td>Output</td><td>TMAX signal output terminal, HiZ at time of system clock.
<table>
<tr><th>TMAX PERIOD</th><th>TMAX OUTPUT</th></tr>
<tr><td>Longer than specified period</td><td>L</td></tr>
<tr><td>Shorter than specified period</td><td>H (2VREF)</td></tr>
<tr><td>Specified period</td><td>HiZ</td></tr>
</table></td></tr>
<tr><td>62</td><td>LPFN</td><td>Input</td><td>LPF amplifier inverting input terminal for PLL.</td></tr>
<tr><td>63</td><td>LPFO</td><td>Output</td><td>LPF amplifier output terminal for PLL.</td></tr>
<tr><td>64</td><td>VCOF</td><td>Input</td><td>VCO filter terminal.</td></tr>
<tr><td>65</td><td>TESTX</td><td>Input</td><td>Test terminal.</td></tr>
<tr><td>66*</td><td>$\overline{HS}$</td><td>Output</td><td>Double speed monitor output terminal. Double speed operation at "L" level.</td></tr>
<tr><td>67</td><td>GNDD</td><td>—</td><td>Digital ground terminal.</td></tr>
<tr><td>68*</td><td>SPDA</td><td>Output</td><td>Processor status signal output terminal.
Correction process judging result, memory buffer capacity, etc.</td></tr>
<tr><td>69*</td><td>COFS</td><td>Output</td><td>Correction system frame periodic signal output terminal. 7.35 kHz.</td></tr>
<tr><td>70*</td><td>WDCK</td><td>Output</td><td>Word clock output terminal. Normally, 88.2kHz.</td></tr>
<tr><td>71*</td><td>CHCK</td><td>Output</td><td>Channel clock output terminal. Normally, 44.1 kHz.</td></tr>
<tr><td>72*</td><td>BCK</td><td>Output</td><td>Bit clock output terminal. Normally, 1.4112MHz</td></tr>
<tr><td>73*</td><td>AOUT</td><td>Output</td><td>Audio data output terminal.</td></tr>
<tr><td>74*</td><td>EMPH</td><td>Output</td><td>Emphasis ON/OFF indication signal output terminal. Emphasis ON at "H" level.</td></tr>
<tr><td>75*</td><td>DOUT</td><td>Output</td><td>Digital out output terminal.</td></tr>
<tr><td>76*</td><td>$\overline{TEST2}$</td><td>Input</td><td>Test terminal. Normally, keep at "H" level or open.</td></tr>
<tr><td>77</td><td>VDDX</td><td>Output</td><td>Oscillator supply voltage terminal.</td></tr>
<tr><td>78,79</td><td>XI,XO</td><td>In/Output</td><td>Crystal oscillator connecting teminal.</td></tr>
<tr><td>80</td><td>GNDX</td><td>Output</td><td>Oscillator grand terminal.</td></tr>
</table>

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC802 VHiTC9284BF-1:Servo/Signal Control (TC9284BF)

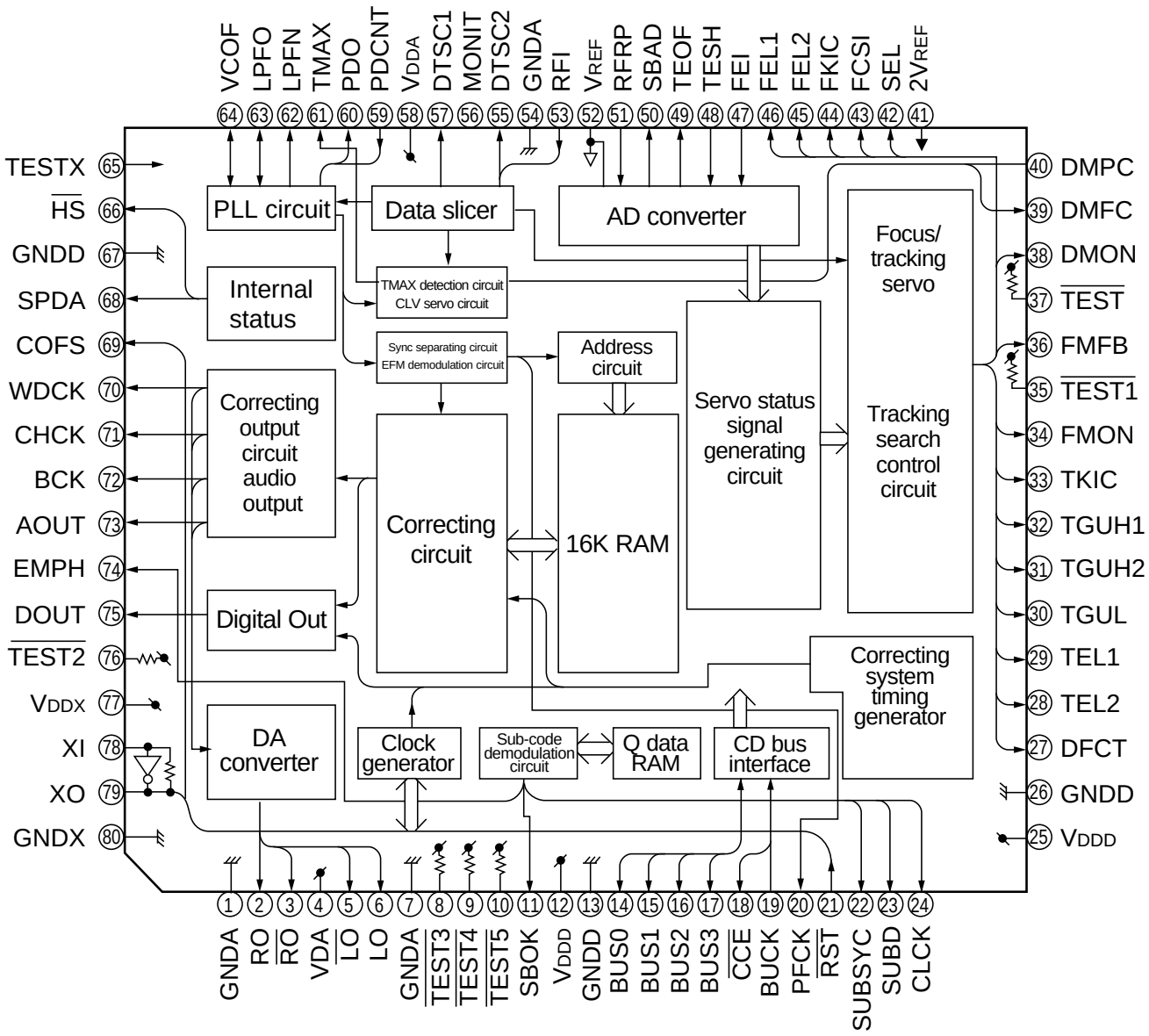


Figure 40 BLOCK DIAGRAM OF IC

IC801 VHiTA2065F/-1:Servo Amp. (TA2065F)

Pin No.	Terminal Name	Input/Output	Function
1	RFO	Output	RF amp (RF AMP) output terminal.
2	RFI	Input	RF ripple signal generating circuit input terminal.
3	VRO	Output	VR amp output terminal.
4	2VRO	Output	2VR amp output terminal.
5	RFRP	Output	RF ripple signal output terminal.
6	SBAD	Output	Defects detection signal output terminal.
7	DFIN	Input	Defect detecting comparator positive phase input terminal.
8	FEP	Input	Focus error balance adjusting input terminal.
9	FEN	Input	Focus error amp (FE AMP) negative phase input terminal.
10	FEO	Output	Focus error amp (FE AMP) output terminal.
11	FEI	Input	Focus output amp (FS AMP) positive phase input terminal.
12	FHLD	Input	Hold switch terminal for defect.
13*,14*	FEL1,2	Input	Focus gain adjusting terminal.
15	FSN	Input	Focus output amp (FS AMP) nagative phase input terminal.
16	FSO	Output	Focus output amp (FS AMP) output terminal.
17	COSC	Output	Focus search signal generating capacitor connecting terminal.
18	OSCI	Input	Focus search signal generating built-in current source control input terminal.
19	GND	—	Ground terminal.
20	VCC	—	Power source terminal.
21	SEL	Input	Analog switch control signal input terminal.
22	DMEP	Input	Disc motor amp (DM AMP) positive phase input terminal.
23	DMEN	Input	Disc motor amp (DM AMP) negative phase input terminal.
24	DMEO	Output	Disc motor amp (DM AMP) output terminal.
25	DFCT	Input	Defect detecting comparator negative phase input terminal.
26	FMSO	Output	Feed motor output amp (FMS AMP) output terminal.
27	FMSN	Input	Feed motor output amp (FMS AMP) negative phase input terminal.
28	FMSP	Input	Feed motor output amp (FMS AMP) positive phase input terminal.
29*	THLD	Input	Hold switch terminal for defect.
30	TS2O	Output	Tracking servo amp 2 (TS2 AMP) output terminal.
31	TS2N	Input	Tracking servo amp 2 (TS2 AMP) negative phase input terminal.
32	TS2P	Input	Tracking servo amp 2 (TS2 AMP) positive phase input terminal.
33*	TS1N	Input	Tracking servo amp 1 (TS1 AMP) negative phase input terminal.
34	TS1P	Input	Tracking servo amp 1 (TS1 AMP) positive phase input terminal.
35	TSO	Ouput	Tracking output amp (TS AMP) output terminal.
36,37	TEL1,2	Input	Tracking gain adjusting terminal.
38	TSN	Input	Tracking output amp (TS AMP) negative phase input terminal.
39	TPO	Output	Sub-beam I-V amp output terminal.
40	TPI	Input	Sub-beam I-V amp input terminal.
41	TNI	Input	Sub-beam I-V amp input terminal.
42	TNO	Output	Sub-beam I-V amp output terminal.
43	FNI	Input	Main-beam I-V amp input terminal.
44	FPI	Input	Main-beam I-V amp input terminal.
45	LDO	Output	Laser diode amp output terminal.
46	MDI	Input	Monitor photo diode amp input terminal.
47	RFN	Input	RF amp negative phase input terminal.
48	RFT	Input	RF amp peaking terminal.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC801 VHiTA2065F/-1:Servo Amp. (TA2065F)

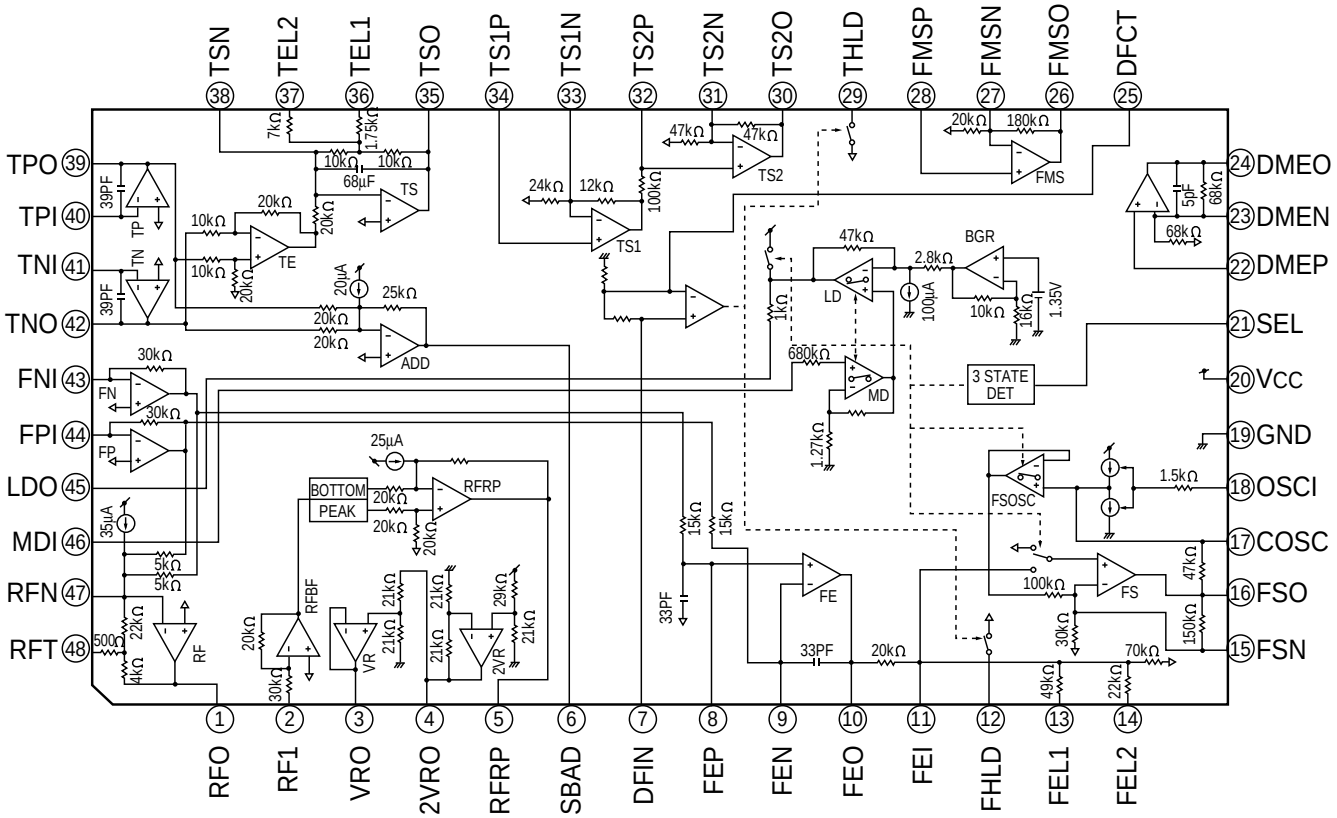
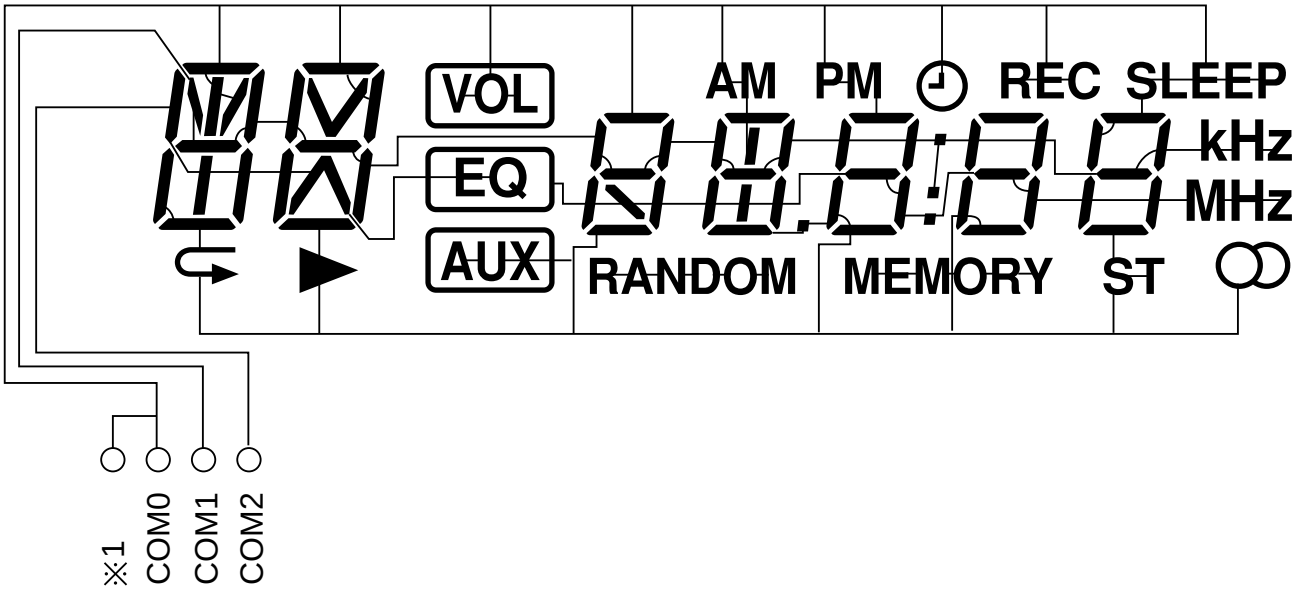


Figure 42 BLOCK DIAGRAM OF IC

LCD701 : RV-LX0027AWZZ LCD

COMMON



SEGMENT

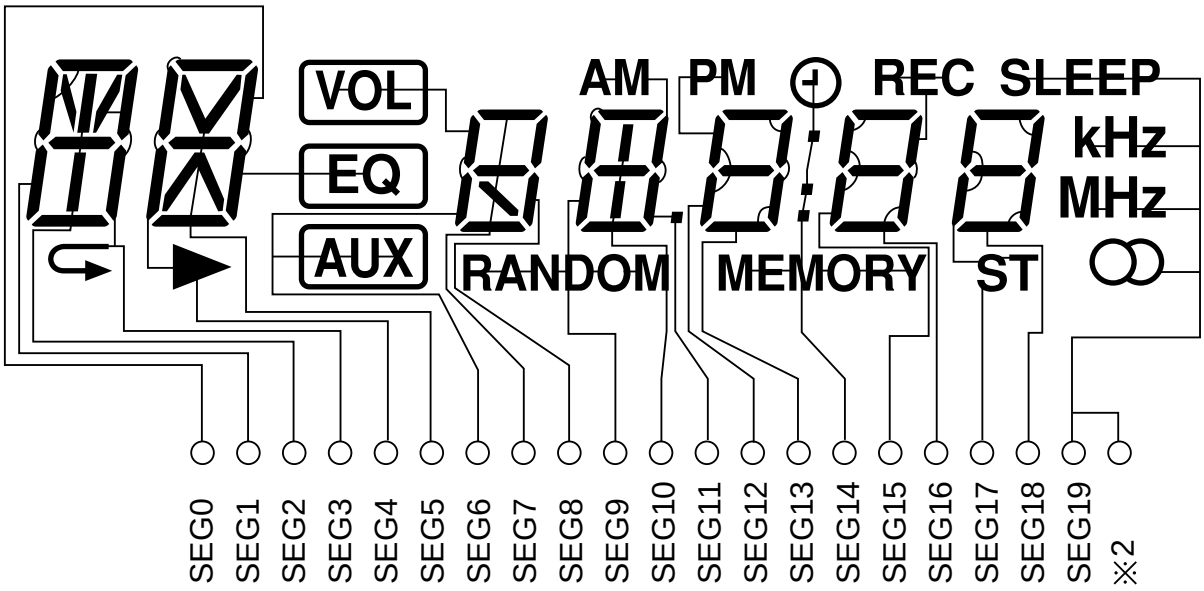


Figure 43 LCD

PACKING OF METHOD (XL-520E ONLY)

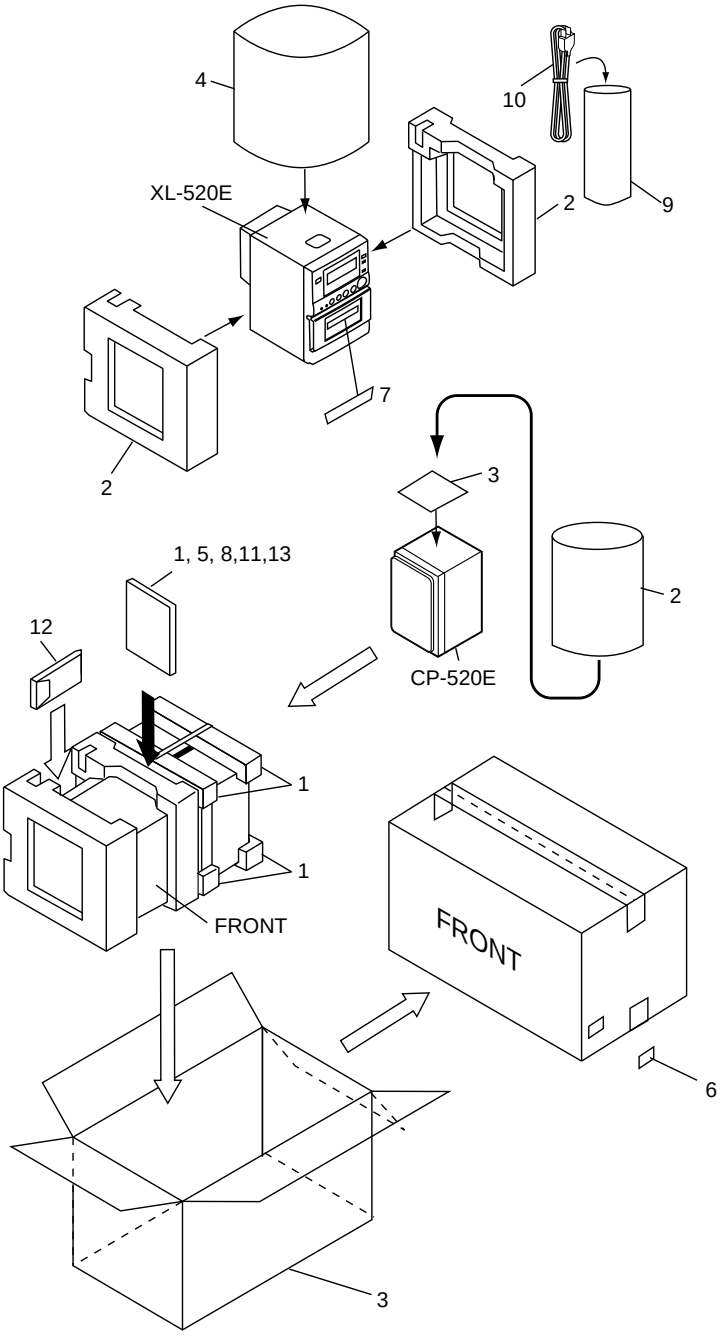
Setting position of switches and knobs	
Tape Mechanism	STOP

XL-520E

1. AM Loop Antenna	QANTL0005AWZZ
2. Packing Add.	SPAKA0146AWZZ
3. Packing Case	SPAKC0563AWZZ
4. Polyethylene Bag, Unit	SSAKH0014AWZZ
5. Operation Manual	TiNSE0177AWZZ
6. Label, Bar Code	TLABE0191AWZZ
7. Label, Feature	TLABM0041AWZZ
8. Polyethylene Bag, Accessories	92LBAG1460C1
9. Polyethylene Bag, AC Power Supply Cord	92LBAG1658B
10. AC Power Supply Cord	QACCB0004AW00
11. Card, Registration	92LCARD1751A
12. Remote Control	RRMCG0106AWSA
13. FM Antenna	92LF-ANT1535A

CP-520E

1. Packing Add., Speaker	92L412-0087
2. Polyethylene Bag, Speaker	92L411-0019
3. Protection Sheet	92L242-0002



SHARP PARTS GUIDE

MODEL XL-520H
XL-520E
CP-520
CP-520E

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. No.
3. PART NO.
4. DESCRIPTION

★ MARK: SPARE PARTS-DELIVERY SECTION

For U.S.A. only

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor,
Please call Toll-Free;
1-800-BE-SHARP

Explanation of capacitors/resistors parts codes

Capacitors

VCC ..... Ceramic type
VCK..... Ceramic type
VCT..... Semiconductor type
VC • • MF ..... Cylindrical type (without lead wire)
VC • • MN..... Cylindrical type (without lead wire)
VC • • TV..... Square type (without lead wire)
VC • • TQ ..... Square type (without lead wire)
VC • • CY ..... Square type (without lead wire)
VC • • CZ ..... Square type (without lead wire)
VC • • • • • • • • • J .. The 13th character represents capacity difference.
("J" ±5%, "K" ±10%, "M" ±20%, "N" ±30%,
"C" ±0.25 pF, "D" ±0.5 pF, "Z" +80-20%.)

If there are no indications for the electrolytic capacitors, error is ±20%.

Resistors

VRD ..... Carbon-film type
VRS..... Carbon-film type
VRN ..... Metal-film type
VR • • MF ..... Cylindrical type (without lead wire)
VR • • MN..... Cylindrical type (without lead wire)
VR • • TV..... Square type (without lead wire)
VR • • TQ ..... Square type (without lead wire)
VR • • CY ..... Square type (without lead wire)
VR • • CZ ..... Square type (without lead wire)
VR • • • • • • • • • J .. The 13th character represents error.
("J" ±5%, "F" ±1%, "D" ±0.5%.)

If there are no indications for other parts, the resistors are ±5% carbon-film type.

NOTE:
Parts marked with "⚠" are important for maintaining the safety of the set.
Be sure to replace parts with specified ones for maintaining the safety and performance of the set.

NO.	PART CODE	★	PRICE RANK	DESCRIPTION

XL-520H/520E

INTEGRATED CIRCUITS

IC101	VHIBA3126N/-1	J	AF	Head Selector,BA3126N
IC102	VHIBA3311L/-1	J	AK	REC./P.B.Equalizer Amp., BA3311L
IC302	VHILC72131/-1	J	AP	PLL (Tuner),LC72131
IC303	VHILA1832//-1	J	AR	FM IF Det./FM Mpx./ AM IF, LA1832
IC401	VHILC75394E-1	J	AX	Audio Processor LC75394E
IC601	VHILA4450//-1	J	AH	Power Amp.,LA4450
IC701	RH-IX0189AWZZ	J	AS	System Microcomputer, IX0189AW
IC801	VHITA2065F/-1	J	AT	Servo Amp.,TA2065F
IC802	VHITC9284BF-1	J	AY	Servo/Signal Control,TC9284BF
IC804	VHIM56748FP-1	J	AR	Focus/Tracking/Spin/Slide Driver,M56748FP

TRANSISTORS

Q101~106	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q107	VSKRC104M//-1	J	AC	Digital,NPN,KRC104 M
Q151	VS2SC2001-K-1	J	AD	Silicon,NPN,2SC2001 K
Q152	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q153	VSKRC104M//-1	J	AC	Digital,NPN,KRC104 M
Q154,155	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q171	VSKRA102M//-1	J	AC	Digital,PNP,KRA102 M
Q172	VSKRC102M//-1	J	AC	Digital,NPN,KRC102 M
Q301	VS2SC380-O/-1	J	AC	Silicon,NPN,2SC380 O
Q302~304	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q351	VSKRC104M//-1	J	AC	Digital,NPN,KRC104 M
Q360	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q362	VSKRA107M//-1	J	AE	Digital,PNP,KRA107 M
Q601~603	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q604,605	VS2SD2012Y/-1	J	AF	Silicon,NPN,2SD2012 Y
Q606	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q607	VS2SD2012Y/-1	J	AF	Silicon,NPN,2SD2012 Y
Q608	VSKRA102M//-1	J	AC	Digital,PNP,KRA102 M
Q609	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q701	VSKRC102M//-1	J	AC	Digital,NPN,KRC102 M
Q702,703	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q704	VS2SD468-C/-1	J	AD	Silicon,NPN,2SD468 C
Q705	VSKRA102M//-1	J	AC	Digital,PNP,KRA102 M
Q706	VSKRC102M//-1	J	AC	Digital,NPN,KRC102 M
Q707	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q801	VS2SA1015GR-1	J	AB	Silicon,PNP,2SA1015 GR
Q861	VS2SD468-C/-1	J	AD	Silicon,NPN,2SD468 C
Q901	VSKRC102M//-1	J	AC	Digital,NPN,KRC102 M
Q902	VS2SB562-C/-1	J	AD	Silicon,PNP,2SB562 C
Q903	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q904	VSKRC102M//-1	J	AC	Digital,NPN,KRC102 M
Q905	VS2SB562-C/-1	J	AD	Silicon,PNP,2SB562 C
Q906	VSKRA102M//-1	J	AC	Digital,PNP,KRA102 M

DIODES

D101,102	VHD1SS133//-1	J	AA	Silicon,1SS133
D104~106	VHD1SS133//-1	J	AA	Silicon,1SS133
D301~304	VHD1SS133//-1	J	AA	Silicon,1SS133
D401,402	VHD1SS133//-1	J	AA	Silicon,1SS133
D601~604	VHD1SS133//-1	J	AA	Silicon,1SS133
⚠ D651~654	VHD1N5402M/-1	J	AE	Silicon,1N5402M
⚠ D656~659	VHDRL104A//-1	J	AB	Silicon,RL104A
D718	VHDRL104A//-1	J	AB	Silicon,RL104A
D720~723	VHD1SS133//-1	J	AA	Silicon,1SS133
D801	VHDRL104A//-1	J	AB	Silicon,RL104A
D901~903	VHD1SS133//-1	J	AA	Silicon,1SS133
LED704~712	VHP204GDTR4-V	J	AD	LED,Green,204GDTR4
PH901	VHPI31535CD-1	J	AG	Phote Interrupter
VD301	VHCKV1236Z23F	J	AS	Variable Capacitance, KV1236Z23F
ZD351	VHEUZ5R1BSB-1	J	AA	Zener,5.1V,UZ5.1BSB
ZD601	VHEUZ130BSA-1	J	AC	Zener,13V,UZ13BSA
ZD602	VHEUZ7R5BSC-1	J	AA	Zener,7.5V,UZ7.5BSC
ZD701	VHEUZ3R3BSB-1	J	AB	Zener,3.3V,UZ3.3BSB
ZD702	VHEUZ6R2BSC-1	J	AB	Zener,6.2V,UZ6.2BSC
ZD801	VHEUZ5R6BSB-1	J	AA	Zener,5.6V,UZ5.6BSB

FILTERS

CF301	RFILF0072AFZZ	J	AG	FM IF
CF302	RFILF0072AFZZ	J	AG	FM IF
CF351	RFILF0003AWZZ	J	AK	FM IF
CF352	RFILA0009AWZZ	J	AE	AM IF

TRANSFORMERS

T301	RCILA1074AFZZ	J	AD	LW Antenna
T302	RCILA0052AWZZ	J	AE	AM Antenna
T305	RCILB1073AFZZ	J	AC	OSC,LW
T306	RCILB0058AWZZ	J	AC	AM Oscillation
T351	RCILI0015AWZZ	J	AE	AM IF
⚠ T651	RTRNP0151AWZZ	J	BD	

COILS

L151	VP-MK331K0000	J	AB	330 µH,Choke
L341	RBLN-0001AWZZ	J	AD	Balun
L342	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L351,352	VP-DH101K0000	J	AB	100 µH,Choke
L353	VP-DH102K0000	J	AB	1 mH,Choke
L354	RFILL0001AWZZ	J	AE	Low Pass Filter
L409	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L601,602	RCILZ0137AFZZ	J	AA	0.29 µH
L603,604	VP-DH100K0000	J	AB	10 µH,Choke
L701	VP-DH101K0000	J	AB	100 µH,Choke
L802	VP-XHR82K0000	J	AC	0.82 µH
⚠ LF651	RCILZ0008AWZZ	J	AH	Core

VARIABLE RESISTORS

VR351	92LVRS103NBMT	J	AC	10 kohm (B),Semi-VR [VCO]
VR802	92LVRS104NBMT	J	AC	100 kohm (B),Semi-VR [Tracking Error Balance]
VR803	92LVRS104NBMT	J	AC	100 kohm (B),Semi-VR [Focus Offset]

VIBRATORS

X351	RCRM-0028AWZZ	J	AE	Ceramic,
X352	RCRSP0002AWZZ	J	AH	Crystal,4.5 MHz
X701	RCRM-0029AWZZ	J	AE	Ceramic,8 MHz
X702	RCRSP0051AFZZ	J	AK	Crystal,32.768 kHz
X801	RCRSP0005AWZZ	J	AF	Crystal,16.934 MHz

CAPACITORS

C101,102	VCKYMN1HB471K	J	AA	470 pF,50V
C103,104	VCKYMN1HB331K	J	AA	330 pF,50V
C105,106	VCKYMN1HB271K	J	AA	270 pF,50V
C107,108	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C109,110	RC-QZ0016AWZZ	J	AB	0.015 µF,50V,Electrolytic
C111,112	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C113,114	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C115,116	VCTYMN1CX222K	J	AA	0.0022 µF,16V
C117	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C118	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C119,120	VCTYMN1CY103K	J	AA	0.01 µF,16V
C121,122	VCKYMN1HB820K	J	AA	82 pF,50V
C123	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C124	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C125	RC-GZA107AF1E	J	AB	100 µF,25V,Electrolytic
C126	RC-GZA226AF1C	J	AB	22 µF,16V,Electrolytic
C129,130	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C131	VCKYBT1HB821K	J	AA	820 pF,50V
C151	VCKYMN1HB181K	J	AA	180 pF,50V
C152	VCKYMN1HB102K	J	AA	0.001 µF,50V
C153	VCQPKA2AA392J	J	AB	0.0039 µF,100V,Polypropylene
C154	VCQYKA1HM273J	J	AB	0.027 µF,50V,Mylar
C155	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C156	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C301,302	VCKYPA1HB102K	J	AA	0.001 µF,50V
C322	VCCCMN1HH100J	J	AA	10 pF (CH),50V
C323	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C324	VCCUMN1HJ270J	J	AA	27 pF (UJ),50V
C325	VCKYMN1HB221K	J	AA	220 pF,50V
C326	VCCCMN1HH180J	J	AA	18 pF (CH),50V
C327	VCKYMN1HB681K	J	AA	680 pF,50V
C328	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C329	VCCCPA1HH330J	J	AA	33 pF (CH),50V
C330	VCCUMN1HJ8R2D	J	AA	8.2 pF (UJ),50V
C331	VCKZPA1HF473Z	J	AA	0.047 µF,50V
C332,333	VCTYMN1EF223Z	J	AA	0.022 µF,25V

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
C334	VCCUMN1HJ180J	J	AA	18 pF (UJ),50V
C335	VCCCMN1HH180J	J	AA	18 pF (CH),50V
C336	VCKYMN1HB471K	J	AA	470 pF,50V
C337	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C339	VCCCMN1HH220J	J	AA	22 pF (CH),50V
C340	VCKYMN1HB102K	J	AA	0.001 µF,50V
C341	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C342	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C343,344	VCCSMN1HL330J	J	AA	33 pF,50V
C345~347	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C350,351	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C352	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C353,354	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C355	VCCSMN1HL220J	J	AA	22 pF,50V
C356	VCKYMN1HB102K	J	AA	0.001 µF,50V
C357	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C358	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C360	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C361	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C362	RC-GZA335AF1H	J	AB	3.3 µF,50V,Electrolytic
C363	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C364	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C365	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C366	VCKYMN1HB102K	J	AA	0.001 µF,50V
C367,368	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C369	VCCSMN1HL560J	J	AA	56 pF,50V
C370~372	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C373,374	VCTYPA1CX223K	J	AA	0.022 µF,16V
C376,377	VCKYMN1HB221K	J	AA	220 pF,50V
C378	VCKYBT1HB221K	J	AA	220 pF,50V
C379	VCKYMN1HB221K	J	AA	220 pF,50V
C380	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C381	VCCCMN1HH120J	J	AA	12 pF (CH),50V
C382	VCCCMN1HH150J	J	AA	15 pF (CH),50V
C383	VCTYBT1EF223Z	J	AA	0.022 µF,25V
C384	VCKYBT1HB102K	J	AA	0.001 µF,50V
C385	VCTYMN1CY103K	J	AA	0.01 µF,16V
C386	VCKYMN1HB331K	J	AA	330 pF,50V
C387	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C391	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C392	VCKYMN1HB102K	J	AA	0.001 µF,50V
C393	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C394	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C395	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C396	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C397	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C398	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C399	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C401~406	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C407,408	VCKYMN1HB331K	J	AA	330 pF,50V
C409	VCKYPA1HB102K	J	AA	0.001 µF,50V
C411,412	RC-GZA226AF1C	J	AB	22 µF,16V,Electrolytic
C413,414	VCKYMN1HB101K	J	AA	100 pF,50V
C415,416	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C421,422	VCQYKA1HM224K	J	AB	0.22 µF,50V,Mylar
C423,424	VCKYPA1CX823K	J		
C425,426	VCTYPA1CX333K	J	AA	0.033 µF,16V
C427,428	VCTYMN1CX103K	J	AA	0.01 µF,16V
C433	VCTYMN1CX332K	J	AA	0.0033 µF,16V
C434	VCTYPA1CX332K	J	AA	0.0033 µF,16V
C435,436	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C437,438	VCKYMN1HB101K	J	AA	100 pF,50V
C439,440	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C441,442	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C443	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C444	RC-GZA107AF1E	J	AB	100 µF,25V,Electrolytic
C445	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C601	RC-GZA336AF1C	J	AB	33 µF,16V,Electrolytic
C602	VCKYPA1HB102KT	J		
C602A	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C603,604	VCKYPA1HB102K	J	AA	0.001 µF,50V
C605,606	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C607	RC-GZA107AF1H	J	AC	100 µF,50V,Electrolytic
C608	RC-GZA107AF1H	J	AC	100 µF,50V,Electrolytic
C609,610	RC-GZA476AF1H	J	AB	47 µF,50V,Electrolytic
C609A	VCKYPA1HB331K	J	AA	330 pF,50V
C610A	VCKYMN1HB331K	J	AA	330 pF,50V
C611,612	RC-QZA224AFYJ	J	AB	0.22 µF,50V,Mylar
C611A,612A	VCKYBT1HB331K	J	AA	330 pF,50V
C613,614	RC-GZV108AF1E	J	AD	1000 µF,25V,Electrolytic
C615	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C616	RC-GZW228AF1H	J	AH	2200 µF,50V,Electrolytic
C617,618	VCKYPU1HB472K	J	AA	0.0047 µF,50V
C619	VCKYPA1HB102K	J	AA	0.001 µF,50V
C620	RC-GZV477AF1E	J	AC	470 µF,25V,Electrolytic
C621	RC-GZA107AF1E	J	AB	100 µF,25V,Electrolytic
C622	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C623	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C624	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C625	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C626	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C627	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C628	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C629	RC-GZA107AF1H	J	AC	100 µF,50V,Electrolytic
C630	RC-GZW478AF1E	J	AG	4700 µF,25V,Electrolytic
C632,633	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C636,637	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C639,640	VCKZPA1HF103Z	J	AA	0.01 µF,50V
C642	VCKYPA1HB101K	J	AA	100 pF,50V
C643,644	RC-QZA224AFYJ	J	AB	0.22 µF,50V,Mylar
C645	VCKYPA1HB331K	J	AA	330 pF,50V
C647	VCKYBT1HB331K	J	AA	330 pF,50V
C648	VCKYPA1HB122Z	J		0.0012 µF,50V
C651	VCFYDA1HA104J	J	AB	0.1 µF,50V,Thin Film
C654	VCFYDA1HA104J	J	AB	0.1 µF,50V,Polyester
C656~659	VCFYDA1HA104J	J	AB	0.1 µF,50V,Polyester
C661~663	VCKYPA1HB821K	J	AA	820 pF,50V
C671,672	VCKYPA1HB271K	J	AA	270 pF,50V
C673,674	VCKYBT1HB101K	J	AA	100 pF,50V
C701,702	VCCCMN1HH220J	J	AA	22 pF (CH),50V
C703,704	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C710	VCTYMN1CY103K	J	AA	0.01 µF,16V
C711	RC-GZA335AF1H	J	AB	3.3 µF,50V,Electrolytic
C712	VCTYMN1CY103K	J	AA	0.01 µF,16V
C713	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C714	VCKYMN1HB471K	J	AA	470 pF,50V
C715	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C716	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C717	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C802	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C804	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C807	VCQYKA1HM224K	J	AB	0.22 µF,50V,Mylar
C808	VCFYHA1HA334J	J	AC	0.33 µF,50V,Thin Film
C809	VCTYMN0JY153M	J	AA	0.015 µF,6.3V
C810	RC-QZ0026AWZZ	J	AB	0.1 µF,50V,Mylar
C811	RC-GZA226AF1C	J	AB	22 µF,16V,Electrolytic
C812	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C813	VCTYMN1CX222K	J	AA	0.0022 µF,16V
C820	VCTYMN1CX682K	J	AA	0.0068 µF,16V
C821	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C822	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C823	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C824	RC-QZ0023AWZZ	J	AB	0.056 µF,50V,Mylar
C825	RC-QZ0021AWZZ	J	AB	0.039 µF,50V,Mylar
C826	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C827	VCKYMN1HB471K	J	AA	470 pF,50V
C828	RC-QZ0023AWZZ	J	AB	0.056 µF,50V,Mylar
C829	VCCSMN1HL3R9C	J	AA	3.9 pF,50V
C830	VCCSMN1HL470J	J	AA	47 pF,50V
C831	RC-QZ0023AWZZ	J	AB	0.056 µF,50V,Mylar
C832	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C833	RC-GZA227AF1A	J	AB	220 µF,10V,Electrolytic
C834	RC-QZ0023AWZZ	J	AB	0.056 µF,50V,Mylar
C841	VCTYMN1CX472K	J	AA	0.0047 µF,16V
C842,843	VCTYMN1CX332K	J	AA	0.0033 µF,16V
C844	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C845	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C846	RC-GZA227AF1A	J	AB	220 µF,10V,Electrolytic
C847	VCKYMN1HB101K	J	AA	100 pF,50V
C848,849	VCTYMN1CY103K	J	AA	0.01 µF,16V
C850	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C851	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C852	RC-QZ0006AWZZ	J	AB	0.0022 µF,50V,Mylar
C853	RC-QZ0023AWZZ	J	AB	0.056 µF,50V,Mylar
C854	VCCCMN1HH180J	J	AA	18 pF (CH),50V
C855	VCCCMN1HH150J	J	AA	15 pF (CH),50V
C856	VCKYMN1HB271K	J	AA	270 pF,50V
C857	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C858	RC-QZ0023AWZZ	J	AB	0.056 µF,50V,Mylar
C859	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C860	RC-QZ0023AWZZ	J	AB	0.056 µF,50V,Mylar
C861	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C862	RC-GZA337AF1A	J	AB	330 µF,10V,Electrolytic
C863	VCTYMN1EF223Z	J	AA	0.022 µF,25V

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
C864,865	RC-QZ0018AWZZ	J	AB	0.022 µF,50V,Mylar
C871	RC-GZA337AF1A	J	AB	330 µF,10V,Electrolytic
C881	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C883,884	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C885,886	VCTYMN1CX222K	J	AA	0.0022 µF,16V
C887	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C901	VCKYMN1HB102K	J	AA	0.001 µF,50V
C902	RC-GZA335AF1H	J	AB	3.3 µF,50V,Electrolytic
C903	RC-GZA107AF1E	J	AB	100 µF,25V,Electrolytic
C904,905	VCKZPA1HF223Z	J	AA	0.022 µF,50V

RESISTORS

	VRD-MN2BD000C	J	AA	0 ohm,Jumper,ø1.4×3.5mm,Ivory
R70A,70B	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R70C	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R70E	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R70F	VRD-MN2BD820J	J	AA	82 ohms,1/8W
R70G	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R70H,70J	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R70K	VRD-MN2BD121J	J	AA	120 ohms,1/8W
R70L	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R70M	VRD-MN2BD101J	J	AA	100 ohm,1/8W
⚠ R70N	VRG-ST2EF100J	J	AB	10 ohm,1/4W,Fusible
R70P	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R70R	VRD-MN2BD101J	J	AA	100 ohm,1/8W
R80A~80C	VRD-ST2CD823J	J	AA	82 kohms,1/6W
R80E~80G	VRD-ST2CD823J	J	AA	82 kohms,1/6W
R101,102	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R103,104	VRD-MN2BD121J	J	AA	120 ohms,1/8W
R105,106	VRD-MN2BD154J	J	AA	150 kohms,1/8W
R107,108	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R109,110	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R111	VRD-ST2EE222J	J	AA	2.2 kohms,1/4W
R112	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R113,114	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R115,116	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R117,118	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R119,120	VRD-MN2BD101J	J	AA	100 ohm,1/8W
R121~124	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R125	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R126	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R127,128	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R129,130	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R131,132	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R133	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R134	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R135	VRD-MN2BD684J	J	AA	680 kohms,1/8W
R136	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R137	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R138	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R139	VRD-ST2EE272J	J	AA	2.7 kohms,1/4W
R140	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R141	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R151	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R152	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R153,154	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R155	VRD-ST2EE560J	J	AA	56 ohms,1/4W
R156,157	VRD-ST2EE151J	J	AA	150 ohms,1/4W
R159,160	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R319	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R323	VRD-MN2BD683J	J	AA	68 kohms,1/8W
R324	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R331	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R332	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R333	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R334	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R335	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R336	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R337	VRD-ST2EE471J	J	AA	470 ohms,1/4W
R343	VRD-ST2CD331J	J	AA	330 ohms,1/6W
R344	VRD-MN2BD681J	J	AA	680 ohms,1/8W
R345	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R346	VRD-ST2CD331J	J	AA	330 ohms,1/6W
R347	VRD-MN2BD682J	J	AA	6.8 kohms,1/8W
R348	VRD-MN2BD681J	J	AA	680 ohms,1/8W
R349	VRD-MN2BD330J	J	AA	33 ohms,1/8W
R350	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
R351	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R352	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R353	VRD-MN2BD271J	J	AA	270 ohms,1/8W
R355	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R356	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R357	VRD-MN2BD474J	J	AA	470 kohms,1/8W
R358	VRD-MN2BD822J	J	AA	8.2 kohms,1/8W
R359	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R360	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R361,362	VRD-MN2BD123J	J	AA	12 kohms,1/8W
R363	VRD-ST2EE332J	J	AA	3.3 kohms,1/4W
R364	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R365	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R369	VRD-MN2BD121J	J	AA	120 ohms,1/8W
R370	VRD-MN2BD271J	J	AA	270 ohms,1/8W
R371~374	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R376	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R377	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R379	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R380	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R381	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R382	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R383	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R384	VRD-MN2BD123J	J	AA	12 kohms,1/8W
R385	VRD-ST2EE562J	J	AA	5.6 kohms,1/4W
R386	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R387	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R391,392	VRD-ST2EE391J	J	AA	390 ohms,1/4W
R393	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R395	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R397	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R401~403	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R405,406	VRD-MN2BD273J	J	AA	27 kohms,1/8W
R407,408	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R411,412	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R413,414	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R415	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R416	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R417	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R418	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R419	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R420	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R421	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R422	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R479,480	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R601,602	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R603,604	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R605,606	VRD-ST2CD271J	J	AA	270 ohms,1/6W
R607	VRD-ST2CD682J	J	AA	6.8 kohms,1/6W
R608	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R609,610	VRD-ST2EE3R3J	J	AA	3.3 ohms,1/4W
R613,614	VRD-RT2HD271J	J	AA	270 ohms,1/2W
R615,616	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R617	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R619,620	VRD-ST2EE470J	J	AA	47 ohms,1/4W
R621	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R623	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R624	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R625	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R627	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R628	VRD-ST2EE101J	J	AA	100 ohm,1/4W
R629	VRD-ST2EE821J	J	AA	820 ohms,1/4W
R631,632	VRD-ST2EE6R8J	J	AA	6.8 ohms,1/4W
R633	VRD-ST2EE100J	J	AA	10 ohm,1/4W
R634	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R651	VRS-VV3LA681J	J	AC	680 kohms,3W,Metal Oxide Film
R661,662	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R702A,702B	VRD-MN2BD121J	J	AA	120 ohms,1/8W
R703A,703B	VRD-MN2BD121J	J	AA	120 ohms,1/8W
R704A,704B	VRD-MN2BD121J	J	AA	120 ohms,1/8W
R708	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R709	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R710	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
R711	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R712	VRD-ST2EE182J	J	AA	1.8 kohms,1/4W
R713	VRD-ST2EE103J	J	AA	10 kohm,1/4W
R717	VRD-ST2EE392J	J	AA	3.9 kohms,1/4W
R718	VRD-ST2EE272J	J	AA	2.7 kohms,1/4W
R719	VRD-ST2EE182J	J	AA	1.8 kohms,1/4W
R720	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R721,722	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R723~725	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R726	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R727	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R728	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R729	VRD-MN2BD103J	J	AA	10 kohm,1/8W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R730~732	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R733~735	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R736,737	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R738,739	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R741~751	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R753~757	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R759~761	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R764~767	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R770~776	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R777	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R778~781	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R784,785	VRD-MN2BD0000	J		
R787	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R788	VRD-ST2EE473J	J	AA	47 kohms,1/4W
R793,794	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R795	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R798	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R799	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R801	VRD-ST2EE220J	J	AA	22 ohms,1/4W
R803	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R804	VRD-MN2BD124J	J	AA	120 kohms,1/8W
R805	VRD-MN2BD184J	J	AA	180 kohms,1/8W
R809	VRD-MN2BD104J	1	AA	100 kohm,1/8W
R810	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R811	VRD-MN2BD273J	J	AA	27 kohms,1/8W
R812	VRD-MN2BD183J	J	AA	18 kohms,1/8W
R813	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R814	VRD-MN2BD105J	J	AA	1 Mohm,1/8W
R816	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R817	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R818	VRD-MN2BD180J	J	AA	18 ohms,1/8W
R819	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R820	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R821	VRD-MN2BD183J	J	AA	18 kohms,1/8W
R822	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R823	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R825	VRD-MN2BD474J	J	AA	470 kohms,1/8W
R826	VRD-MN2BD224J	J	AA	220 kohms,1/8W
R827	VRD-MN2BD154J	J	AA	150 kohms,1/8W
R828	VRD-ST2CD272J	J	AA	2.7 kohms,1/6W
R829	VRD-MN2BD471J	J	AA	470 ohms,1/8W
R830	VRD-MN2BD224J	J	AA	220 kohms,1/8W
R831	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R832	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R833	VRD-MN2BD822J	J	AA	8.2 kohms,1/8W
R834	VRD-MN2BD684J	J	AA	680 kohms,1/8W
R837	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
R838	VRD-ST2EE123J	J	AA	12 kohms,1/4W
R841	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R842	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R843	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R844	VRD-MN2BD224J	J	AA	220 kohms,1/8W
R845	VRD-MN2BD225J	J	AA	2.2 Mohms,1/8W
R846	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R851,852	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R866	VRD-ST2EE820J	J	AA	82 ohms,1/4W
R867	VRD-ST2EE100J	J	AA	10 ohm,1/4W
R871,872	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R873	VRD-ST2EE472J	J	AA	4.7 kohms,1/4W
R874	VRD-ST2EE103J	J	AA	10 kohm,1/4W
R875	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R881	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R885,886	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R887,888	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R901	VRD-ST2EE152J	J	AA	1.5 kohms,1/4W
R902	VRD-MN2BD563J	J	AA	56 kohms,1/8W
R903	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R904	VRD-MN2BD391J	J	AA	390 ohms,1/8W
R905	VRD-ST2EE103J	J	AA	10 kohm,1/4W
R906	VRD-ST2EE152J	J	AA	1.5 kohms,1/4W
R907	VRD-ST2EE103J	J	AA	10 kohm,1/4W
R908	VRD-MN2BD473J	J	AA	47 kohms,1/8W

OTHER CIRCUITRY PARTS

BI651/CNS651	QCNWN0981AWZZ	J	AE	Connector Ass'y,2-2Pin
BI652/CNS651	QCNWN0982AWZZ	J	AE	Connector Ass'y,2-2Pin
BI801/CNS801	QCNWN0975AWZZ	J	AH	Connector Ass'y,8-8Pin
BI802/CNS802	QCNWN0976AWZZ	J	AF	Connector Ass'y,7-7Pin
BI803/CNS803	QCNWN0977AWZZ	J	AG	Connector Ass'y,6-6Pin
BI805/CNS805	QCNWN0980AWZZ	J	AL	Connector Ass'y,3-3Pin
BI901/CNS901	QCNWN0973AWZZ	J	AG	Connector Ass'y,7-7Pin

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
CNP101	92LCONE8P53253	J	AC	Plug,8Pin
CNP301	92LCONE-2P5268	J	AB	Plug,2Pin
CNP602	QCNCM010QAWZZ	J	AD	Plug,15Pin
CNP603	QCNCM010KAWZZ	J	AC	Plug,10Pin
CNP604	92LCONE8P52287	J	AD	Plug,8Pin,Wire Trap
CNP605	92LCONE-3P5267	J	AB	Plug,3Pin
CNP651	92LCONE-2P5267	J	AB	Plug,2Pin
CNP652	92LCONE-2P5267	J	AB	Plug,2Pin
CNP803	92LCONE6P53254	J	AC	Plug,6Pin
CNP805	92LCONE3P53014	J	AC	Plug,3Pin
CNP901	QCNCM932GAFZZ	J	AD	Plug,7Pin
CNS101	QCNWN0341AWZZ	J	AL	Connector Ass'y,8Pin
CNS602	QCNCW010QAWZZ	J	AE	Socket,15Pin
CNS603	QCNCW010KAWZZ	J	AD	Plug,10Pin
⚠ F651	92LFUSET312E	J	AD	Fuse,T3.15A L 250V
⚠ F652	92LFUSE-T122-E	J	AD	Fuse,T1.25AL,250V
FE301	RTUNS0007AWZZ	J	AT	FM Front End
FW601	QCNWN0974AWZZ	J	AD	Flat Wire,5Pin
FW604	QCNWN0984AWZZ	J	AE	Flat Wire,8Pin
FW605	QCNWN1048AWZZ	J	AK	Flat Wire,3Pin
FW701	QCNWN0979AWZZ	J	AD	Flat Wire,2Pin
FW702	QCNWN0978AWZZ	J	AD	Flat Wire,2Pin
J01	LHLDZ1155AWZZ	J	AE	Holder,LCD
J02	LHLDZ1157AWZZ	J	AD	Holder,LED
J03	PSHEP0016AWZZ	J	AD	Sheet,LCD
J601	QJAKM0005AWZZ	J	AD	Jack,Headphones
J801	VHPGP1F32T/-1	J	AP	Optical Fiber Data Link, GP1F32T
LCD701	RV-LX0027AWZZ	J	AP	LCD
M801	92LMTR1854BASY	J	AP	Motor with Gear [Sled]
M802	92LMTR1906CASY	J	AS	Motor with Chassis [Spindle]
M901	92LMTR2538AASY	J	AS	Motor with Pulley [TAPE]
MJ101	VRD-MN2BD000C	J	AA	0 ohm,Jumper,ø1.4×3.5mm,Ivory
MJ303~307	VRD-MN2BD0000	J		
MJ601,602	VRD-MN2BD0000	J		
RX701	VHL21043TE2-1	J	AL	Remote Sensor,21043TE2
SO301	QTANC0103AWZZ	J	AD	Antenna Terminal
SO401	QSOCJ0205AWZZ	J	AG	Jack,VIDEO/AUX
SO601	QTANA0404AWZZ	J	AF	Terminal,Speaker
⚠ SO651	QSOCA0204AWZZ	J	AF	Socket,AC Input
SOL901	RPLU-0002AWZZ	J	AH	Solenoid
SW701	QSW-P0004AWZZ	J	AE	Switch,Push Type [CD EJECT]
SW702	92LSWICH-1401A	J	AC	Switch,Key Type
SW703	92LSWICH-1401A	J	AC	Switch,Key Type
SW704	92LSWICH-1401A	J	AC	Switch,Key Type
SW705	92LSWICH-1401A	J	AC	Switch,Key Type
SW706	92LSWICH-1401A	J	AC	Switch,Key Type
SW707	92LSWICH-1401A	J	AC	Switch,Key Type
SW710	92LSWICH-1401A	J	AC	Switch,Key Type
SW711	92LSWICH-1401A	J	AC	Switch,Key Type
SW712	92LSWICH-1401A	J	AC	Switch,Key Type
SW713	92LSWICH-1401A	J	AC	Switch,Key Type
SW714	92LSWICH-1401A	J	AC	Switch,Key Type
SW718	QSW-K0004AWZZ	J	AC	Switch,Key Type [ON/STAND-BY]
SW801	QSW-F9001AWZZ	J	AE	Switch,Leaf Type [Pickup In]
SW901	92LM-1676A	J	AC	Switch,Leaf Type [Record Prevention]
SW902	92LM-1658A	J	AB	Switch,Leaf Type [Cam]
TP801	92LCONE-3P5267	J	AB	Plug,3Pin [Test Point]

CASSETTE MECHANISM PARTS

101	LCHSM0015AW01	J	AK	Main Chassis Ass'y
102	LPLTP0002AWZZ	J	AD	Plate,Head
103	NDAIR0005AW01	J	AG	Take Up Reel Ass'y
104	NGERH0024AWZZ	J	AB	Gear,Supply Reel
105	NROLY0002AWZZ	J	AF	Pinch Roller Ass'y
106	NFLYC0002AWZZ	J	AG	Flywheel Ass'y
107	MLEVP0024AW01	J	AH	Lever,FR Ass'y
108	NGERH0027AWZZ	J	AE	Gear,Cam
109	NGERH0028AWZZ	J	AB	Gear,Flywheel
110	NGERH0030AWZZ	J	AE	Gear,Play Idler
111	NGERH0032AWZZ	J	AC	Gear,FF
112	NPLYB0004AWZZ	J	AB	Sensor,Wing
113	MLEVP0026AWZZ	J	AC	Lever,Trigger
114	92LM-LEV1756A	J	AB	Lever,Lock
115	MLEVP0069AWZZ	J	AB	Lever,Eject Obstruct
116	LHLDS1001AW01	J	AE	Hold Bearing Ass'y
117	PGIDM0008AWZZ	J	AC	Guide,Cassette
118	MLEVF0008AW01	J	AD	Lever,Idler Ass'y
119	MLEVF0009AW01	J	AE	Lever,Over Strok Ass'y

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
120	LANGT0026AWFW	J	AC	Blacket,Hold
121	LANGT0027AWFW	J	AD	Blacket,Motor
122	LANGT0033AWFW	J	AB	Blacket,Switch
123	MSPRP0005AWFW	J	AB	Spring,Cassette
124	MSPRC0008AWFJ	J	AB	Spring,Back Tention
126	MSPRC0025AWFJ	J	AB	Spring,Supply Cap
127	92LM-TSPR1756C	J	AB	Spring,Lock Lever
128	MSPRD0033AWFJ	J	AB	Spring,Play Idler Lever
129	MSPRD0034AWFJ	J	AB	Spring,Play Roller
130	MSPRD0036AWFJ	J	AB	Spring,Play Return
131	MSPRD0037AWFJ	J	AB	Spring,Over Strok Lever
132	MSPRD0039AWFJ	J	AB	Spring,FR Lever
133	MSPRD0040AWFJ	J	AB	Spring,Eject Obstruct
134	NBLTK0030AWZZ	J	AC	Belt,Sub
135	NBLTK0010AWZZ	J	AC	Belt,Main
136	MSPRD0045AWFJ	J	AB	Spring,Trigger Lever
137	RHEDH0001AWZZ	J		Head,Record/Playback
138	RHEDB0001AWZZ	J	AG	Head,Erase
139	92LN-BAND1318A	J	AA	Nylon Band,80mm
141	92LM-REL1676B	J	AB	Cap,Supply Reel
501	92L1R8WC4-R5P	J	AA	Washer,ø1.8×ø4×0.5mm
502	92L1R5WC3R8R5P	J	AA	Washer,ø1.5×ø3.8×0.5mm
503	92L2TTS+4BZ	J	AA	Screw,ø2×4mm
504	92L2TTS+5BZ	J	AA	Screw,ø2×5mm
505	92LS2R6S1746A	J	AA	Screw,ø2.6×5mm
506	92L2R3W3R4R25P	J	AA	Washer,ø2.3×ø3.4×0.25mm
507	92L2R2TWO	J	AA	Washer,ø2.2mm
508	LX-BZ0004AWFD	J	AC	Screw,ø2.6mm Lock Lever
509	XHPSD20P05000	J	AA	Screw,ø2×5mm
M901	92LMTR2538AASY	J	AS	Motor with Pulley [TAPE]
SOL901	RPLU-0002AWZZ	J	AH	Solenoid Ass'y
SW901	92LM-SW1676A	J	AC	Switch,Leaf Type [Record Prevention]
SW902	92LM-SW1658A	J	AB	Switch,Leaf Type [Cam]

CD MECHANISM PARTS

301	NGERH0011AWZZ	J	AC	Gear,Middle
302	NGERH0012AWZZ	J	AC	Gear,Drive
303	MLEVP0010AWZZ	J	AC	Rail,Guide
304	NSFTM0002AWFW	J	AE	Shaft,Guide
305	92LM-CUSN1524A	J	AC	Cushion,Gum
⚠306	92LHPC1MXASY	J		Pickup Unit Ass'y
306- 1	————		—	Pickup Unit (Not Replacement Item)
306- 2	NGERR0043AFZZ	J	AC	Gear,Rack
306- 3	MSPRC0961AFZZ	J	AA	Spring,Rack
307	PCOVP1001AWSA	J	AE	Cover,Mechanism
701	XBSSD26P06000	J	AA	Screw,ø2.6×6mm
702	XHBSD20P05000	J	AA	Screw,ø2×5mm
703	XBBSD20P03000	J	AA	Screw,ø2×3mm
704	LX-WZ1070AFZZ	J	AA	Washer,ø1.5×ø3.8×0.25mm
M801	92LMTR1854BASY	J	AP	Motor with Gear [Sled]
M802	92LMTR1906CASY	J	AS	Motor with Chassis [Spindle]
SW801	QSW-F9001AWZZ	J	AE	Switch,Push Type [Pickup In]

CABINET PARTS

201	92LCAB2543AS1	J	AV	Front Panel Ass'y
201- 1	————		—	Front Panel (Not Replacement Item)
201- 2	92LBADGE1692A	J	AC	Badge,SHARP
201- 3	HDECQ0260AWSA	J	AK	Panel,LCD
201- 4	GCOVH1010AWSA	J	AC	Cover,Remote Control Sensor
202	LANGT0042AWFW	J	AC	Bracket,PWB Support
203	92LCUSN1746A	J	AA	Cushion,Leg
204	JKNBZ0382AWSA	J	AG	Knob,Operation
204	LCHSM0058AWFW	J	AM	Main Chassis
205	MLIFP0003AWZZ	J	AE	Damper,Cassette Holder
206	MSPRD0093AWFJ	J	AB	Spring,Cassette Holder
207	92LPNL2543AS1	J	AM	Cassette Holder Ass'y
207- 1	————		—	Cassette Holder (Not Replacement Item)
207- 2	HDECQ0258AWSA	J	AF	Panel,Cassette Holder
209	92LN-BAND1318A	J	AA	Nylon Band,80mm
210	PCOVW1006AWZZ	J	AD	Cover,PWB
211	92LCAUT1706A1	J	AC	Label,Class-3A Laser
212	92LCAUT1706B	J	AA	Label,Laser
213	GCABB1168AWSA1	J	AM	Rear Panel
214	GITAS0037AWSA	J	AH	Side Panel,Left
215	GITAS0038AWSA	J	AH	Side Panel,Right
216	GCABC1164AWSA	J	AL	Top Cabinet

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
217	PCOVS3020AWFW	J	AE	Shield,Main PWB
218	GDORT0012AWSA	J	AG	CD Lid
219	JKNBZ0128AWSB	J	AC	Knob,CD Eject
220	92LLEV1651A	J	AB	Lever,CD Eject Knob
221	MLIFP0003AWZZ	J	AE	Damper,CD Lid
222	MSPRD0098AWFJ	J	AD	Spring,CD Lid
223	92LMAG2538AS1	J	AL	Stabilizer Ass'y
223- 1	————		—	Stabilizer (Not Replacement Item)
223- 2	92LCUSN1651A	J	AC	Cushion,Stabilizer
223- 3	PMAGF0002AWZZ	J	AE	Magnet
224	PRDAR0083AWFW1	J		Heat Sink
225	LHLDZ1155AWZZ1	J		Holder,LCD
226	LHLDZ1157AWZZ	J	AD	Holder,LED
227	PSHEP0016AWZZ	J	AD	Sheet,LCD
228	TLABS0136AWZZ	J	AB	Caution Label,East Europe [520H Only]
229	TSPC-0460AWZZ1	J		Label,Specifications [520H]
229	TSPC-0461AWZZ	J	AE	Label,Specifications [520E]
230	QFSHD0001AWZZ	J	AB	Holder,Fuse
232	PCOVP1004AWSA	J	AG	Cover,Heat Sink
233	PCOVS3019AWFW	J	AF	Cover,Shield
237	PRDAR0082AWFW	J	AK	Heat Sink
238	PSPAI0013AWZZ	J	AB	Washer
239	92LRDAT-1468B	J	AE	Heat Sink,Sub
241	GCOVD1003AWSB	J	AD	Cover,Digital Out to MD/DAT
246	LANGF0030AWFW	J	AD	Bracket,Heat Sink Support
601	LX-JZ0010AFFD	J	AA	Screw,ø3×10mm
602	XESSD30P10000	J	AA	Screw,ø3×10mm
603	XHBSD40P06000	J	AA	Screw,ø4×6mm
604	XEBSD30P10000	J	AA	Screw,ø3×10mm
605	XJBSD30P10000	J	AA	Screw,ø3×10mm
606	XESSF30P12000	J	AA	Screw,ø3×12mm
607	XJBSF30P10000	J	AA	Screw,ø3×10mm
608	LX-EZ0005AWFD	J	AA	Screw,Special
610	XJBSD30P08000	J	AA	Screw,ø3×8mm
612	XEBSF30P08000	J	AA	Screw,ø3×8mm
616	XJBSF30P08000	J	AA	Screw,ø3×8mm

ACCESSORIES/PACKING PARTS

1	QANTL0005AWZZ	J	AG	AM Loop Antenna
2	SPAKA0146AWZZ	J	AL	Packing Add.
3	SPAKC0562AWZZ	J	AQ	Packing Case [520H]
3	SPAKC0563AWZZ	J	AQ	Packing Case [520E]
4	SSAKH0014AWZZ	J	AB	Polyethylene Bag,Unit
5	TINSE0177AWZZ	J	AE	Operation Manual [520E]
5	TINSZ0249AWZZ	J	AT	Operation Manual [520H Except for Russian]
5	TINSZ0251AWZZ	J	AN	Operation Manual [520H For Russian]
6	TLABE0190AWZZ	J	AB	Label,Bar Code [520H]
6	TLABE0191AWZZ	J	AB	Label,Bar Code [520E]
7	TLABM0041AWZZ	J	AC	Label,Feature [520E]
7	TLABM0052AWZZ	J		Label,Feature [520H]
8	92LBAG1460C1	J	AB	Polyethylene Bag,Accessories
9	92LBAG1658B	J	AA	Polyethylene Bag,AC Power Supply Cord
⚠10	QACCB0004AW00	J	BB	AC Power Supply Cord [520E]
⚠10	QACCE0005AW00	J	AM	AC Power Supply Cord [520H]
11	92LCARD1751A	J	AB	Card,Registration [520E Only]
12	RRMCG0106AWSA	J	AX	Remote Control
12- 1	GFTAB1017AWSA	J		Lid,Remote Control
13	92LF-ANT1535A	J	AF	FM Antenna

P.W.B. ASSEMBLY (Not Replacement Item)

PWB-A1~6	92LPWB2543MANS	J	—	Main/CD Servo/Display/LED/ Headphones/CD Lid Switch (Combined Ass'y) [520E Only]
PWB-B1,2	92LPWB2543PWRS	J	—	Power Amp/Power Supply (Combined Ass'y) [520E Only]
PWB-C	QPWBF0107AWZZ	J	AD	Tape Mechanism (PWB Only) [520E Only]
PWB-D	QPWBF0027AWZZ	J	AD	CD Motor (PWB Only) [520E Only]

NO.	PART CODE	★	PRICE RANK	DESCRIPTION

CP-520/520E

SPEAKER BOX PARTS

701	92L121-0100	J	AT	Net Frame Ass'y [CP-520E]
701	92L121-0107	J	AX	Net Frame Ass'y [CP-520]
702	92L051-0038	J		Speaker Box,Wooden [CP-520E]
702	92L051-0039	J	AY	Speaker Box,Wooden [CP-520]
703	92L316-0037	J	AG	Duct Pipe
704	92L372-0049	J	AB	Screw,ø4×12mm
705	92L291-0053	J	AG	Speaker Cord
706	92L351-0204	J		Label,Specifications [CP-520E]
706	92L351-0205	J	AD	Label,Specifications [CP-520]
SP1,2	VSP0012PBE54A	J	BA	Woofer
SP3,4	92L-261-0002	J		Tweeter

ACCESSORIES/PACKING PARTS

1	92L412-0087	J	AR	Packing Add.,Speaker
2	92L411-0019	J	AB	Polyethylene Bag,Speaker
3	92L242-0002	J		Protection Sheet

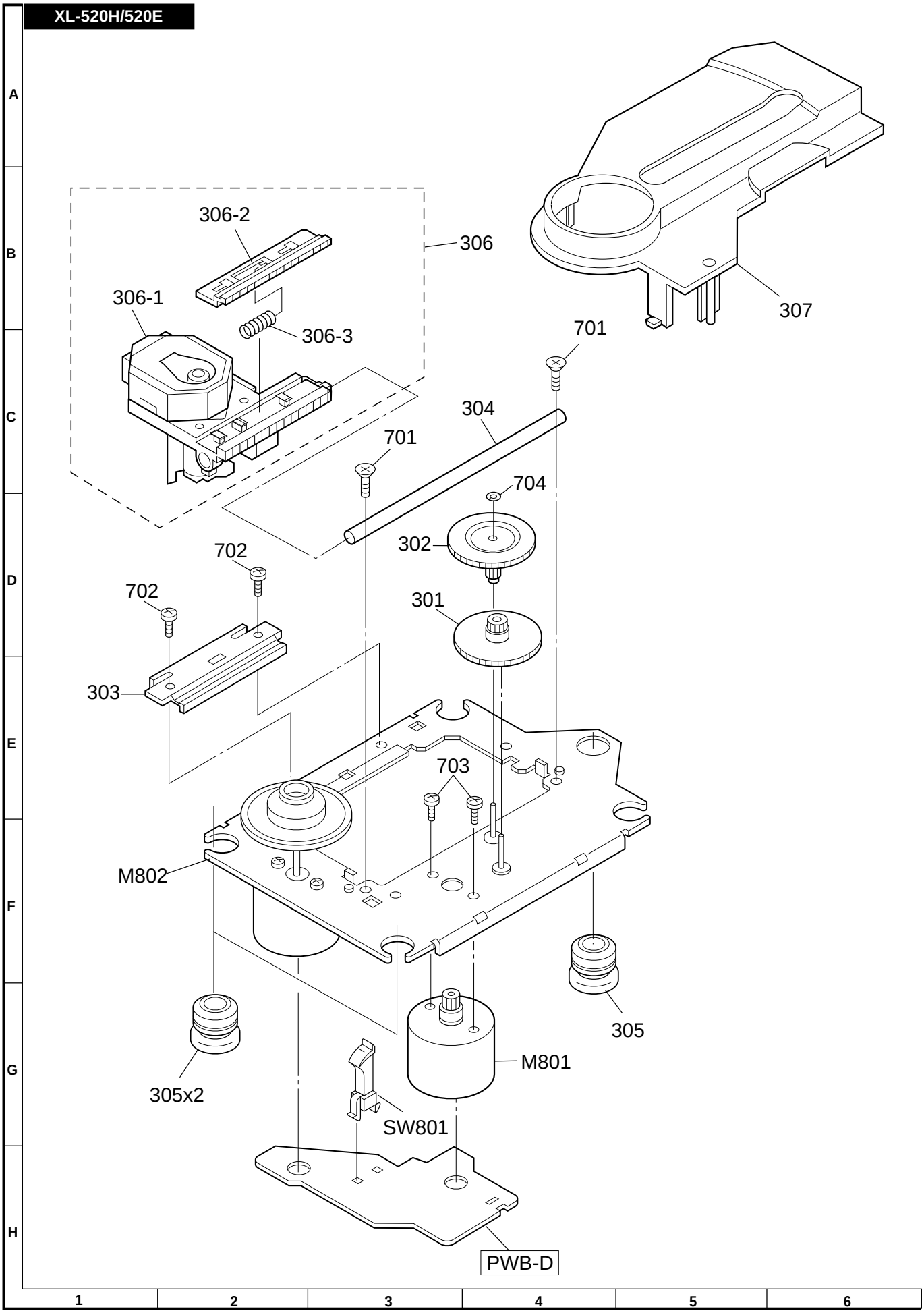


Figure 7 CD MECHANISM EXPLODED VIEW

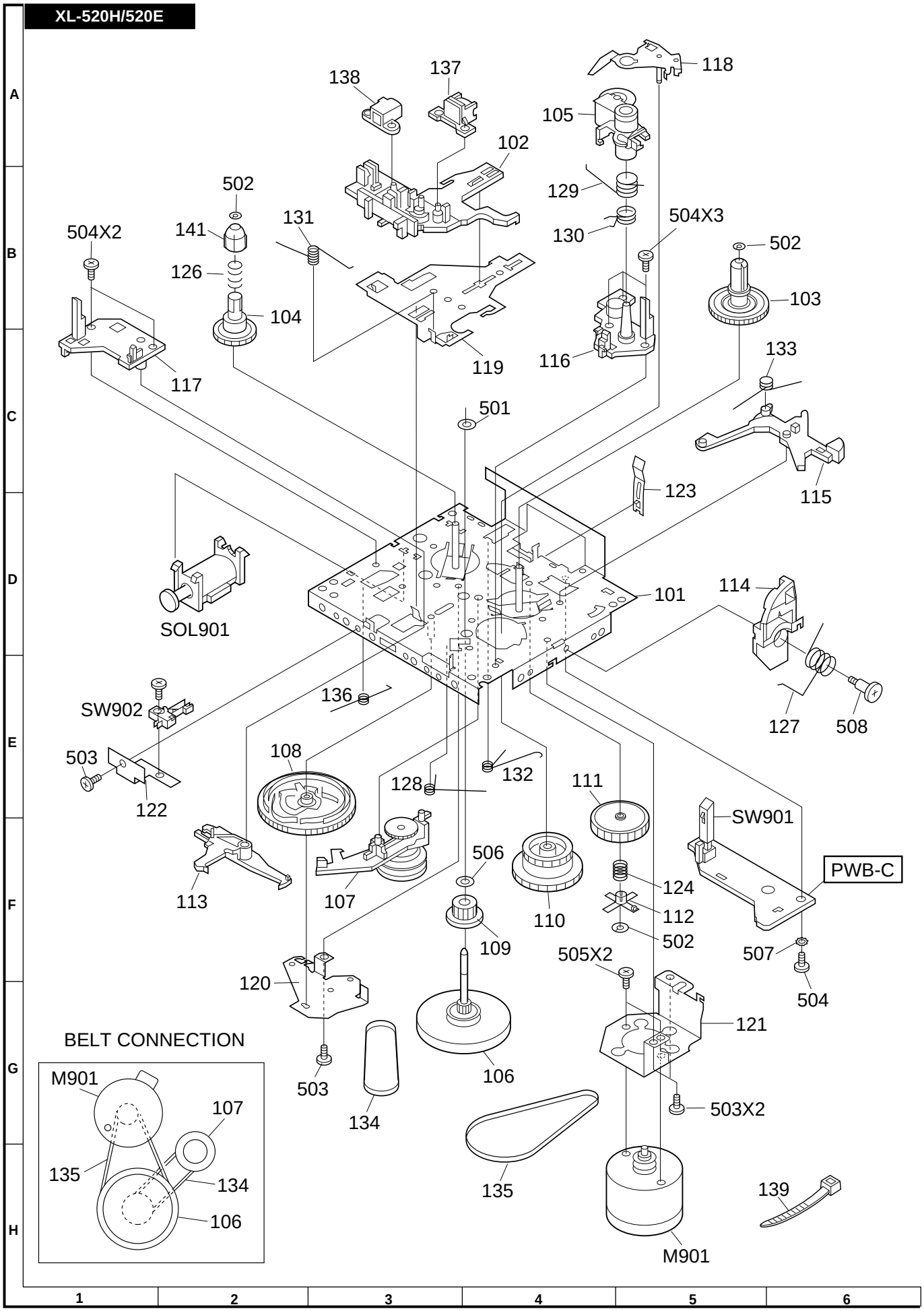


Figure 8 TAPE MECHANISM EXPLODED VIEW

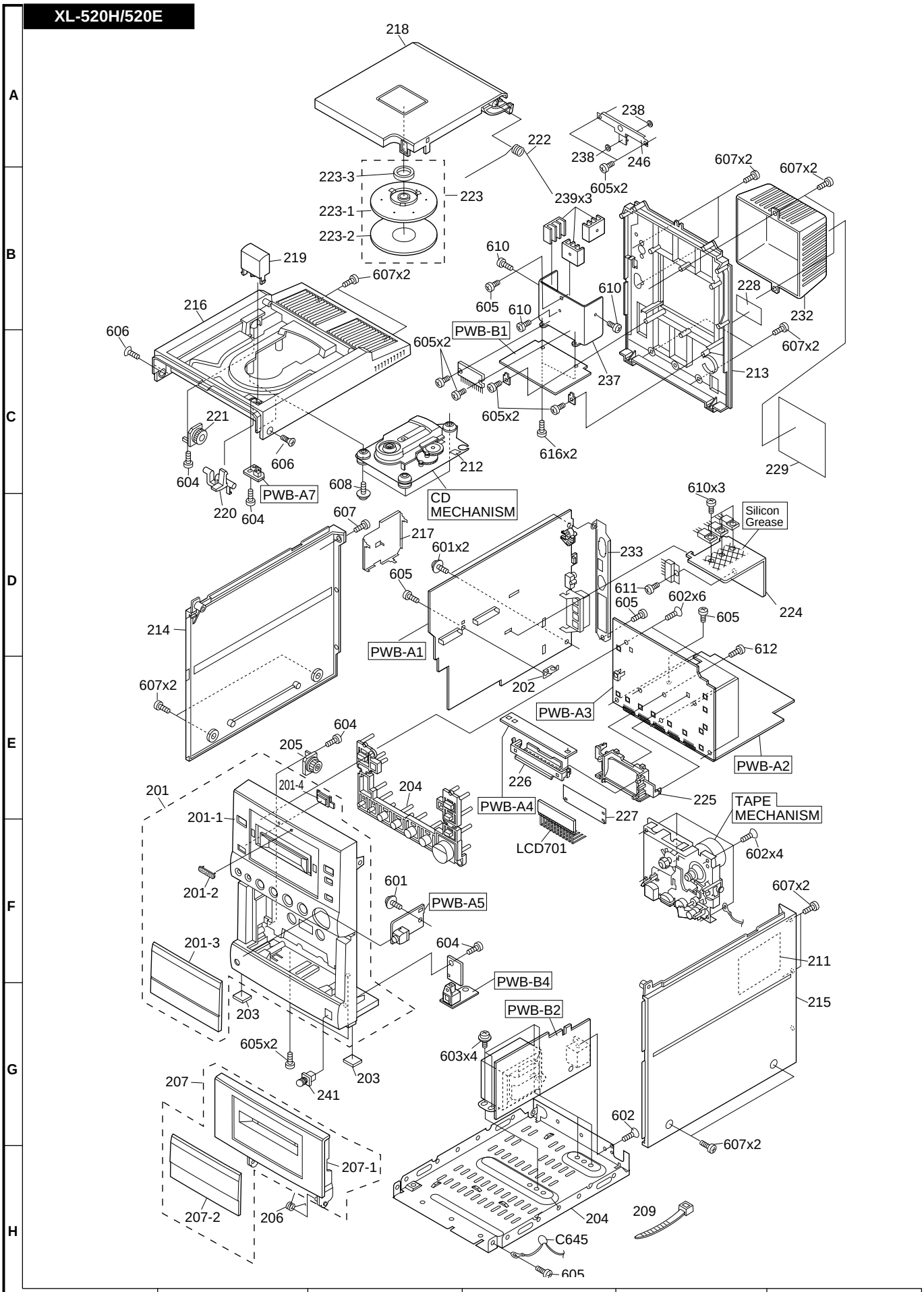


Figure 9 CABINET EXPLODED VIEW

CP-520/520E

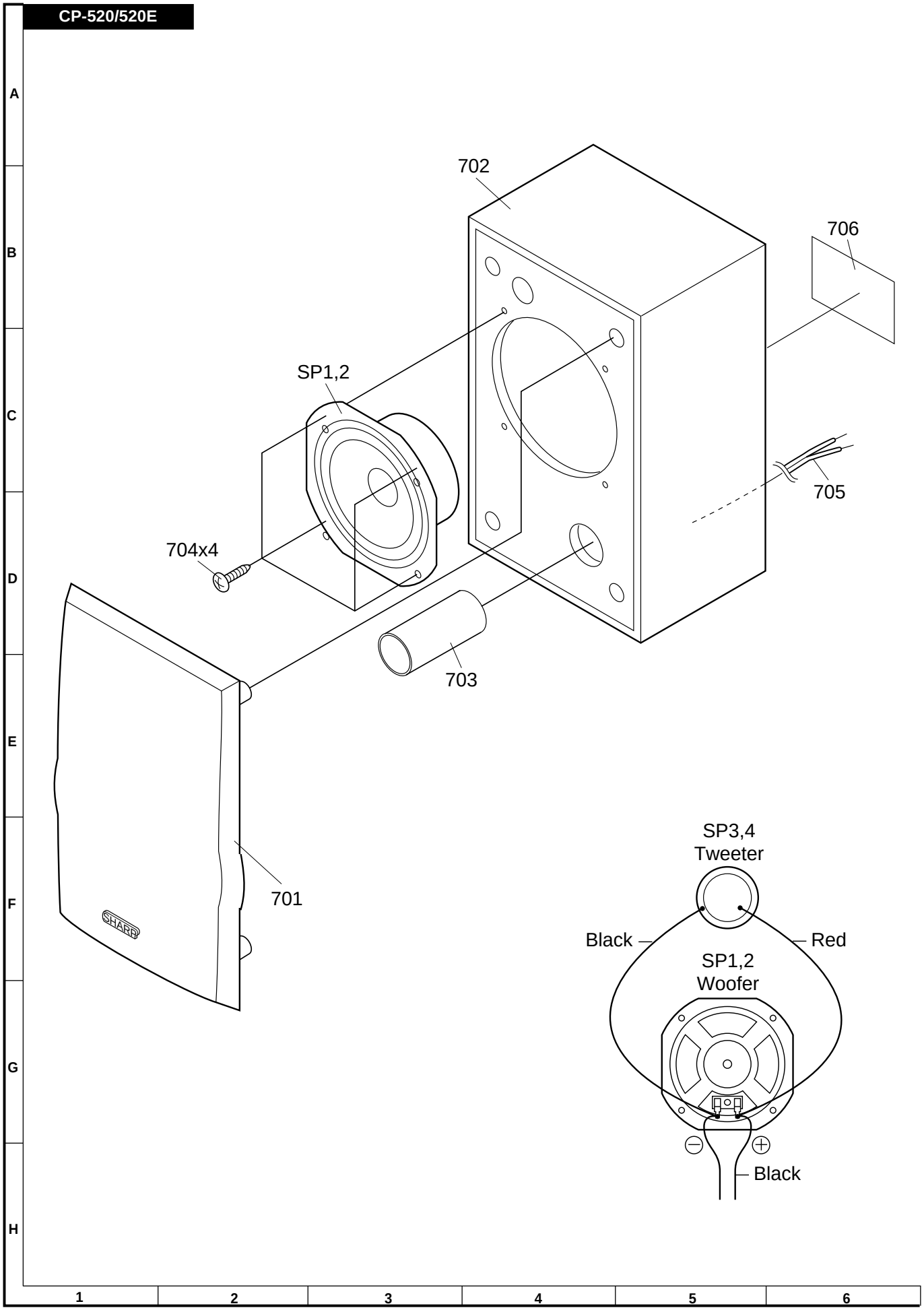


Figure 10 SPEAKER EXPLODED VIEW

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